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IN THE

Supreme Court of the United States

OCTOBER TERM, 1976

No. 76-708

FIREMAN'S FUND INSURANCE COMPANY, *Petitioner*

vs.

VIDEFREEZE CORPORATION and DAVID E. CHINNERY DEVELOPMENT CORPORATION, *Respondents*

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

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INDEX

	Page
OPINIONS BELOW	1
JURISDICTION	2
QUESTIONS PRESENTED FOR REVIEW	2
JURISDICTION IN THE DISTRICT COURT	3
STATEMENT OF THE CASE	3
THE EVIDENCE	8
ARGUMENT	33
I. Introduction	33
II. Reasons for Granting Certiorari	39
III. The Court of Appeals Erroneously Applied the "Any Evidence Rule" Instead of the "Reasonable Man" Test as The Standard for Motions for Judgment Notwithstanding the Verdict. Said Decision is Contrary to and in Conflict with Decisions of the United States Supreme Court, Decisions of the U.S. Court of Appeals in Other Circuits, and Even Other Decisions of the Third Circuit Court of Appeals.	40
IV. Judge Young's Evaluation of the Evidence was proper in view of the Trial Court's Duty to Determine Whether the Evidence Was Overwhelmingly in Favor of Plaintiff and Whether There Was Substantial Evidence to Support a Contrary Conclusion.	43
V. There Are No "Private Earthquakes" in the Virgin Islands.	45
VI. In Applying the "Reasonable Man" Test, the Court of Appeals Should Have Examined the Physical Facts and the Laws of Nature.	47

Page

VII. The Evidence Demanded a Finding that the Damage to the Chinnery/Videfreeze Buildings Was Not a "Direct Loss by Earthquake". 51

VIII. The Testimony of the Lay Witnesses and Dr. Murphy Was Insufficient to Show That an Earthquake Occurred on December 8, 1974 and That the Damage to the Chinnery/Videfreeze Buildings and Property Was "Direct Loss by Earthquake". 54

IX. The Court of Appeals Misconstrued the Testimony of Dr. Murphy and Erred in Not Holding That the Same Was Too Speculative to Have Any Probative Value. 56

X. The Trial Judge Was Correct In Granting Plaintiff's Motion for Judgment N.O.V. Since There Was Only One Conclusion That Reasonable Man Could Have Reached From the Evidence. 59

XI. Conclusion 60

APPENDIX

[A] Memorandum Opinion and Order of District Judge Warren H. Young Dated and Entered October 15, 1975 ..... 1a

[B] Opinion and Judgment of the United States Court of Appeals for the Third Circuit Dated and Entered August 25, 1976 ..... 21a

[C] Order of the United States Court of Appeals for the Third Circuit Dated and Entered September 29, 1976 Denying Petition for Rehearing and Petition for Rehearing En Banc 41a

[D] Table I—Plaintiff's Exhibits 42a

Page

[E] Table II—Defendants' Exhibits 47a

[F] Table III—The Modified Mercalli Scale of Earthquake Intensities—1956 Version 48a

[G] Table IV—Relationship Between Richter Magnitude Scale and Modified Mercalli Scale 51a

TABLE OF CASES, STATUTES, AND OTHER AUTHORITIES CITED

CASES:

Boeing Company v. *Shipman*, 389 F.2d 507 (5th Cir. 1968) 42

Boeing Company v. *Shipman*, 411 F.2d 365 (5th Cir. 1969) (*en banc*) 41, 42

Brady v. *Southern Railway Company*, 320 U.S. 476, 64 S. Ct. 232, 88 L. Ed. 239 (1943) 40, 43, 44

Burchill v. *Kearney-National*, 468 F.2d 384 (3rd Cir. 1972) 41, 42

Classic Bowl, Inc. v. *AMF Pinspotters, Inc.*, 403 F.2d 463 (7th Cir. 1968) 41

Colna v. *Northern Metal Co.*, 242 F.2d 546, 549 (3rd Cir. 1957) 47, 48, 50

Eastern Air Lines, Inc. v. *McDonnell Douglas Corp.*, 532 F.2d 957, 989 (5th Cir. 1976) 56

Eisenberg v. *Smith*, 265 F.2d 827 (3rd Cir. 1959) 42

Galloway v. *United States*, 319 U.S. 372, 63 S.Ct. 1077, 87 L. Ed. 1458 (1943) 40, 43, 55, 56

Giordano v. *Lee*, 434 F.2d 1227, 1231 (8th Cir. 1970) .. 41

Gunning v. *Cooley*, 281 U.S. 90, 50 S.Ct. 231, 74 L. Ed. 720 (1930) 40, 43

Klein v. *District of Columbia*, 133 U.S. App. D.C. 129, 409 F.2d 164 (D.C. App. 1969) 41

McDonald v. *Ford Motor Company*, 42 Ohio St. 2d 8, 326 N.E.2d 252 (1975) 47, 50

Page

O'Connor v. *Pennsylvania Railway Co.*, 308 F.2d 911 (2nd Cir. 1962) 47, 50
Pergola v. *Pennsylvania Railroad Company*, 311 F.2d 837, 838-839 (6th Cir. 1963) 41
Pieseski v. *Baltimore & Ohio Railway Company*, 393 F.2d 900, 902 (3rd Cir. 1968) 42
Ryan Distribution Corporation v. *Caley*, 147 F.2d 138 (3rd Cir. 1945) 42
Simblest v. *Maynard*, 427 F.2d 1 (2nd Cir. 1970) 41
Taylor v. *National Trailer Convoy, Inc.*, 433 F.2d 569, 571-572 (10th Cir. 1970) 41
Warner v. *Billups Eastern Petroleum Company*, 406 F.2d 1058 (4th Cir. 1969) 41
Woods v. *National Life and Accident Insurance Co.*, 347 F.2d 760 (3rd Cir. 1965) 42
Zollman v. *Symington Wayne Corporation*, 438 F.2d 28, 31 (7th Cir. 1971) 47, 48, 50

STATUTES AND RULES:

28 *United States Code* § 1254 2
48 *United States Code* § 1612 (1970) 3a
1A *Virgin Islands Code* § 1261 (1967) 3a
Federal Rules of Appellate Procedure, Rule 28 8

OTHER AUTHORITIES:

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Bulletin of the Seismological Society of America, Vol. 55, p. 522 (1965) 51a
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Page

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Oxford English Dictionary, Vol. VI, 1970, p. 54 55
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Sykes and Ewing, *The Seismicity of the Caribbean Region*, Vol. 70, No. 20, October 15, 1965, pp. 5070-5073, Journal of Geophysical Research 46, 49
Webster's New Collegiate Dictionary, 1975, p. 357 ... 45
Wright and Miller, Federal Practice and Procedure, Vol. 9
§ 2524, p. 547, note 46
§ 2527, pp. 560-561
§ 2524, pp. 545-546 ..... 40, 41, 47

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

Petitioner, Fireman's Fund Insurance Company, prays that a writ of certiorari issue to review the opinion and judgment of the United States Court of Appeals for the Third Circuit, rendered in the above cause on August 25, 1976.

OPINIONS BELOW

The opinion and judgment by the Honorable Warren H. Young, United States District Court Judge for the U. S. District Court of the Virgin Islands, Division of St. Thomas and St. John, was dated and entered October 15, 1975. Said opinion and judgment is reported at 68 F.R.D. 484. A copy of said order and

judgment is included in the Appendix to Petition at pp. 1a-20a.

The opinion and judgment rendered by the United States Court of Appeals for the Third Circuit in Case Numbers 75-2405 and 75-2406 on August 25, 1976, is reported at ——F. 2d—— (3rd Cir. 1976). A copy of said opinion and judgment is included in the Appendix to Petition, at pp. 21a-40a. The Petition for Rehearing and Petition for Rehearing En Banc was denied on September 29, 1976 and a copy of said order is included in the Appendix to Petition, at p. 41a.

JURISDICTION

The statutory provision conferring jurisdiction upon this Court to review the opinion and judgment of the Third Circuit Court of Appeals dated August 25, 1976 is 28 *United States Code* §1254, which provides as follows:

> "28 U.S.C. §1254. *Court of Appeals;* certiorari; appeal; certified questions. Cases in the Courts of Appeals may be reviewed by the Supreme Court by the following methods:
>
> (1) By writ of certiorari granted upon the petition of any party to any civil or criminal case, before or after rendition of judgment or decree; . . ."

QUESTIONS PRESENTED FOR REVIEW

The questions presented for review by this Petition for a Writ of Certiorari are:

1. Whether the Court of Appeals erred in applying the "any evidence rule" instead of the "reasonable man" test as the standard for motions for directed verdict and motions for judgment notwithstanding the verdict, where said decision is contrary to and in conflict with decisions of the Supreme Court of the United States, earlier decisions of the United States Court of Appeals for the Third Circuit, and decisions of the United States Courts of Appeals for the Second, Fifth, Sixth, Seventh, Eighth, Tenth and District of Columbia Circuits.

2. Whether Courts of Appeals should apply the "physical facts rule" in connection with the "reasonable man" test.

3. Whether Courts of Appeals should allow the testimony of an expert witness to be based upon mere speculation and surmise, where such decision is contrary to and in conflict with decisions of the Supreme Court of the United States and U.S. Courts of Appeals in other Circuits.

JURISDICTION IN THE DISTRICT COURT

Fireman's Fund Insurance Company, as plaintiff, instituted a declaratory judgment action against Videfreeze Corporation and David E. Chinnery Development Corporation under 1A *Virgin Islands Code* §1261 (1967) in the District Court of the Virgin Islands. Jurisdiction of the District Court was conferred by 48 *United States Code* § 1612 (1970).

STATEMENT OF THE CASE

The case *sub judice* arises out of a rockslide that occurred on St. Thomas, the Virgin Islands, on December 8, 1974, between midnight and 8:00 a.m. This rockslide occurred at the site of an old rock quarry at the foot of Haypiece Hill in the area known as the Sub-

Base and damaged buildings and property belonging to David E. Chinnery Development Corporation and its lessee, Videfreeze Corporation.

At the time of this occurrence, David E. Chinnery Development Corporation and Videfreeze Corporation were insureds under four policies of insurance issued by Fireman's Fund Insurance Company. The basic policies provided coverage for direct loss by fire and, by endorsement, provided coverage for "direct loss by earthquake and volcanic eruption." No coverage was provided for damage caused by rockslides or falling objects *per se*.

Chinnery and Videfreeze contend that the rockslide was caused by earthquake. Fireman's Fund contends that the rockslide was not caused by earthquake but by unusually heavy rainfall during October and November 1974, which permeated and saturated the rock cliff already weakened by weathering over the years and earlier quarrying operations involving blasting and cutting a sheer cliff.

When the record is read as a whole, the truth emerges with pristine clarity. Stripped of all embellishments, the gist of what really happened in this case is as follows.

There was unusually heavy rainfall during October and November 1974 that saturated the ground. During October and November 1974, there were small rockslides which occurred during heavy rainfall and caused minor damage to the Chinnery/Videfreeze buildings. These small rockslides were attributed to the unusually heavy rainfall.

Then, on December 8, 1974, a large rockslide occurred. Chinnery and Videfreeze knew that their insurance policies would not cover the damage to their property unless it was a "direct loss by earthquake." At this point, it became clear to the Respondents that their only hope of recovery was to find somebody who would say that the rockslide was caused by an earthquake. Thus, when Mr. Shulterbrandt retained Justus Villa to investigate the cause of the rockslide, he told Villa that he "hoped it had been caused by earthquake" (Tr. 4.158). Thus, the groundwork was laid for the "private earthquake" alleged by the Respondents.

A complaint for declaratory judgment was filed by the Petitioner, Fireman's Fund Insurance Company, on May 27, 1975 (Appendix pp. 7-15). The Respondents, Videfreeze Corporation and David E. Chinnery Development Corporation filed their respective answers on June 30, 1975 (Appendix pp. 16-22a) and July 3, 1975 (Appendix pp. 23-26).

The case came on for trial on September 22, 1975 (Appendix pp. 3). By agreement, the case was bifurcated and the only issue presented to the jury was the liability of Fireman's Fund under the insurance policies issued to Chinnery and Videfreeze, i.e., whether the damage to the buildings and property of Chinnery and Videfreeze was "direct loss by earthquake."

Witnesses called by the plaintiff, Fireman's Fund Insurance Company, included: Nathaniel O. Wells (Tr. 2.2-2.66), Moises Vazques (Tr. 2.66-2.102), Thomas W. W. Donnelly, Ph.D. (Tr. 2.102-2.180, 5.150-5.165), and John F. Tomblin, Ph.D. (Tr. 3.2-3.70, 5.165-5.171).

Documentary and physical evidence presented by the plaintiff, Fireman's Fund Insurance Company, included:

Graph of annual rainfall in St. Thomas prepared from data compiled by U. S. Weather Service, graph of annual rainfall in St. Thomas prepared from data compiled by Nathianiel O. Wells, seismograms from Cayey Station, data search of earthquake data file, copies of insurance policies, photographs of December 8, 1974 rockslides and damage to buildings, correspondence by defendants in October and December 1974, monthly listing of earthquakes by National Earthquake Information Services, Earthquake History of the United States, Modified Mercalli Scale, copy of Cayey Station log, list of Puerto Rico Region earthquakes from 1777 to 1975, rock from Haypiece Hill, dike rock from Haypiece Hill and signed statement of Frank Packard. These documents are identified by exhibit numbers and description in Table I of the Appendix to Petition, at pages 42a-46a, *post*.

Witnesses called by the defendants, Chinnery and Videfreeze, included: Warren Henry Spiller (Tr. 3.92-3.115, 5.142-5.150), Louis Shulterbrandt (Tr. 3.115-3.163), Franklin James Packard (Tr. 3.163-3.174), Pedro F. Lopez (Tr. 4.9-4.32), Walter Chinnery (Tr. 4.32-4.51), Ina Chinnery (Tr. 4.52-4.57), Walter Yaude (Tr. 4.57-4.120), Wellington Bertolet (Tr. 4.120-4.148), Justus Villa (Tr. 4.152-4.202), Andrew Joseph Murphy (Tr. 4.202-4.212, 5.5-5.142), and William Demetree (Tr. 5.171-5.183).

Documentary evidence presented by the defendants, Chinnery and Videfreeze, included: a copy of a sample earthquake questionnaire, photographs of the rockslide

of December 8, 1974, and a map of St. Thomas. These documents are identified by exhibit numbers and description in Table II of the Appendix to Petition, at page 47a, *post*.

Following the close of the evidence and argument of counsel, the Court gave its instructions to the jury, including certain instructions that the burden of proof or persuasion as to whether the damage to the Chinnery/Videfreeze buildings and property was a "direct loss by earthquake" rested on Fireman's Fund. The erroneous placing of this burden of persuasion on Fireman's Fund Insurance Company, plaintiff in the declaratory judgment action, formed the basis for the subsequent cross-appeal in this case.

The jury, after having been out for five hours, returned a verdict late Saturday afternoon, September 27, 1975, in favor of the defendants, Chinnery and Videfreeze (Appendix p. 62). The plaintiff, Fireman's Fund Insurance Company, filed a motion for judgment notwithstanding the verdict (Appendix pp. 63-67) and, in the alternative, a motion for new trial (Appendix pp. 68-73). A hearing on said motion was held on October 2, 1975. At said hearing, it was agreed and stipulated between counsel for all of the parties that, although judgment had not yet been entered on the verdict, the Court would later enter judgment *nunc pro tunc* and that there would be no issue as to whether said motions were premature by reason of the fact that judgment had not been entered.

Judgment *nunc pro tunc* was entered on the verdict on October 13, 1975 (Appendix p. 74). Thereafter, on October 15, 1975, the Court entered an order and judgment granting plaintiff's motion for judgment notwith-

standing the verdict and conditionally granting plaintiff's alternative motion for new trial (Appendix pp. 77-100). Judgment was entered on said order on October 15, 1975 (Appendix p. 101).

Chinnery and Videfreeze filed a notice of appeal on October 17, 1975 (Appendix p. 102). Fireman's Fund filed a notice of cross-appeal on November 5, 1975 (Appendix p. 104). By stipulation of the parties, and permission of the Third Circuit Court of Appeals, pursuant to Rule 28(h) of the *Federal Rules of Appellate Procedure,* it was agreed that Chinnery and Videfreeze would be designated as Appellants and Fireman's Fund would be designated as Appellee.

The appeal and cross-appeal were docketed in United States Court of Appeals in the Third Circuit. The case was argued before a three-judge panel on April 29, 1976. The opinion and judgment of the Court of Appeals for the Third Circuit was rendered on August 25, 1976 (Appendix to Petition, 21a-40a). Fireman's Fund's Petition for Rehearing and Petition for Rehearing En Banc was denied by order dated and entered September 29, 1976 (Appendix to Petition 41a.)

THE EVIDENCE

Nathaniel O. Wells, called as a witness for the plaintiff (Tr. 2.2-2.66), testified that he graduated from the University of Vermont with a bachelor's degree in civil engineering in 1934 and came to St. Thomas in 1936 (Tr. 2.2). Mr. Wells stated that he was a licensed civil engineer and architect (Tr. 2.2) and had engaged in engineering and construction work on St. Thomas from 1936 to the present (Tr. 2.2-2.3). From 1937 until 1952, he was assistant commissioner of public works for St.

Thomas and had been responsible for the engineering work in building roads, supervising quarryng operatons, and building water reservoirs (Tr. 2.3). In 1952, he opened a private practice as a consulting engineer (Tr. 2.3). He did all of the engineering work at Caneel Bay, designed the dam and reservoir for a water supply, designed the drainage system and designed and supervised the building of the road from Cruz Bay to Caneel Bay (Tr. 2.3).

Mr. Wells testified that he had maintained his private rainfall station and kept records of the daily rainfall from 1958 to the present (Tr. 2.4). Copies of said daily and cumulative rainfall records were identified as P-38 (Tr. 2.5) and subsequently introduced into evidence (Tr. 2.13). He testified that the rain was unusually heavy between October 1 and November 30, 1974 and saturated the ground of St. Thomas, including Haypiece Hill (Tr. 2.14-2.20, 2.49-2.50, 2.57-2.58). As to this unusually heavy rainfall, Mr. Wells stated: "I had never seen as peculiar a year as last year was" (Tr. 2.17).

From his examination of the 120 foot high quarry cliff and photographs of the rockslide, Mr. Wells estimated that in December, 1974, 1000 cubic yards had fallen an average distance of 60 feet (Tr. 2.20-2.27). He was of the opinion that the rockslide of December 8, 1974 was caused by water saturation resulting from the unusually heavy rain in the preceding two months (Tr. 2.35-2.38) and that the same thing held true for the earlier rockslide in November, 1974 (Tr. 2.38). He stated that he did not feel an earthquake between midnight and 8:00 a.m. on December 8, 1974 (Tr. 2.57).

Moises Vasques, called as a witness for the plaintiff (Tr. 2.66-2.102), testified that he resided in Cayey, Puerto Rico (Tr. 2.67) and that he was the observer in charge of the seismographic station in Cayey (Tr. 2.67). He stated that the Cayey station was about 140 to 150 kilometers, or 90 miles, from St. Thomas (Tr. 2.68-2.69).

Mr. Vazques stated that the Cayey Station was part of a world-wide seismic network (Tr. 2.67-2.69). He said that the seismograph had a 50,000 magnification so that the station would pick up earthquakes that occur all over the world (Tr. 2.69-2.72). He said that most of the earthquakes for Puerto Rico and the Virgin Islands occur in the Puerto Rico Trench at latitude 18.8 or 18.9 (Tr. 2.72).

He stated that the seismograph was in good working order on December 7 and 8, 1974 (Tr. 2.71-2.74). He identified plaintiff's exhibit P-10 as a seismogram for December 7 and 8, 1974 (Tr. 2.72) and stated that it showed no indication of earthquake between 12:01 a.m. and 8:00 a.m. on December 8, 1974 (Tr. 2.75). He identified plaintiff's exhibit P-11 as a seismogram for April 15, 1968 (Tr. 2.72-2.73) and stated that it indicated an earthquake in the Virgin Islands region on that date (Tr. 2.76-2.77).

Mr. Vazques identified a log book of radiograms used to report earthquakes (P-43) (Tr. 2.78-2.79, 2.83) and a list of reported earthquakes in the Puerto Rico and Virgin Islands region from 1777 to 1975 (P-44) (Tr. 2.83-2.89). Neither record, P-43 or P-44, showed an earthquake in the Puerto Rico and Virgin Island region during December 1974. Counsel for the defendants later stipulated that the records of the United States

Government did not contain any record of an earthquake in the Virgin Island region on December 8, 1974 (Tr. 3.85).

Thomas W. Donnelly, Ph.D., called as a witness for the plaintiff (Tr. 2.102-2.180, 5.150-5.165), testified that he lived in Binghampton, New York, and was a professor of geology at the State University of New York (Tr. 2.103). Dr. Donnelly stated that he received his bachelor's degree in geology at Cornell University in 1954 (Tr. 2.103), a master's degree in geology at California Institute of Technology in 1956, and a doctorate in geology at Princeton University in 1959 (Td. 2.103). He stated that he had studied the geology of St. Thomas and St. John from 1959 through 1969 and had his studies published by the Geological Society of America (Tr. 2.103-2.105).

Dr. Donnelly testified that the sites studied included Haypiece Hill (Tr. 2.107-2.110). He described the kind and structure of the rock found in Haypiece Hill (Tr. 2.111-2.117) and exhibited rock from the hill (P-45 and P-46) (Tr. 2.115-2.116, 2.128-2.131). He also described how water would affect the hill (Tr. 2.170-2.175).

Dr. Donnelly stated that, based upon the evidence as to the rainfall from September through November 1974 and his studies of Haypiece Hill, he was of the opinion that the rockslide of December 8, 1974 was caused by water saturation (Tr. 2.118-2.123).

Dr. Donnelly stated that there was a geological fault near the base of Haypiece Hill that had not been active in millions of years (Tr. 2.124-2.125, 2.177) and was not any way significant to the December 8, 1974 rockslide (Tr. 2.125). He said that he had recently

examined the trace of the fault and nearby structures, which showed no evidence of movement due to earthquake (Tr. 2.125-2.128).

Dr. Donnelly testified that he was a geologist who had done some work in seismology, which he defined as the study of earthquakes (Tr. 2.128, 2.131). He stated that the most common type of earthquake was tectonic, which he described as mountain building or deformation of the earth's surface by forces within the earth (Tr. 2.137-2.139). He said that the other common type of earthquake was the shaking of the ground that accompanies volcanic eruption (Tr. 2.137, 2.139). He said there were also some minor types which were not pertinent (Tr. 2.137).

Dr. Donnelly described the San Andreas Fault in California (Tr. 2.139) and the Puerto Rico Trench, out in the sea bed off Puerto Rico, the Virgin Islands, and other Caribbean islands (Tr. 2.140-2.141). He said that earthquakes in this region occurred because of motion of large portions of the earth's crust known as "plates" (Tr. 2.140). He said that earthquakes in this region occurred deep in the earth, from 20 miles to more than 100 miles below the earth's surface (Tr. 2.141).

Dr. Donnelly said he was familiar with the seismographic station at Cayey and the scientific instruments located there including seismographs with a 50,000 magnification (Tr. 2.143-2.144) and described how a seismograph records earthquake waves (Tr. 2.143-2.150). He identified plaintiff's exhibit P-10 as a seismograph record from the Cayey Station for December 7 and 8, 1974 and stated that it showed no earthquake during this period (Tr. 2.146). He identified plaintiff's

exhibit P-11 as another seismograph record from the Cayey Station for April 14 and 15, 1968 and stated that it showed an earthquake (Tr. 2.147).

Dr. Donnelly said earthquakes were described in terms of magnitude, the measure of how much the ground moves, and intensity, a measurement of the perceived effect of the earthquare (Tr. 2.150-2.151). He said that the universally accepted standards of measurement for magnitude was the Richter Scale (Tr. 2.152) and that the universally accepted standard of measurement for intensity was the Modified Mercalli Scale (Tr. 2.151-2.152). He stated that the Modifier Mercalli Scale appeared at pages 136-137 of *Richter, Elementary Seismology,* (P-37) (Tr. 2.153, 2.160) and that a correlation table for Richter Scale magnitude and Modified Mercalli Scale intensity appeared elsewhere in the same book (Tr. 2.153).

Based upon his geological studies of Haypiece Hill and the seismographs from the Cayey Station, Dr. Donnelly was of the opinion that the rockslide and damage to the Chinnery/Videfreeze building on December 8, 1974 was not caused by earthquake (Tr. 2.155-2.159). He stated that an earthquake of sufficient size to cause the rockslide would have been recorded at the Cayey Station (Tr. 2.155-2.159). He also stated that an earthquake is generally felt and that you can't have a private earthquake limited to two acres of land (Tr. 2.157).

Recalled for rebuttal testimony (Tr. 5.150-5.165), Dr. Donnelly stated that he had calculated the amount of energy and force involved in the fall or slide of 1000 cubic yards of rock for an average distance of sixty feet (Tr. 5.150-5.152) and that this would be equiva-

lent to 2.8 on the Richter Scale (Tr. 5.152-5.153). He said that, if the amount of rock was reduced to 600 cubic yards, the energy being released would be the equivalent of 2.6 on the Richter Scale (Tr. 5.164) and that the release of energy caused by the fall of 400 cubic yards would be equivalent to 2.5 on the Richter Scale (Tr. 5.164).

Dr. Donnelly again stated his opinion that the rockslide of December 8, 1974 was caused by the hill becoming saturated with water (Tr. 5.153-5.157). He stated that the probability of the rockslide being caused by earthquake was infinistesimal (Tr. 5.160).

John F. Tomblin, Ph.D., called as a witness on behalf of the plaintiff (Tr. 3.2-3.163), testified that he lived in Trinidad and was a seismologist by profession (Tr. 3.2). Dr. Tomblin stated that he received a degree in geology, an honors degree in geology (1961), and a doctoral degree (1964) from the University of Oxford, England (Tr. 3.3). While pursuing his doctoral degree, he did research in the West Indies (Tr. 313). He said that his early training and first degree was in geology and, since he first came to the West Indies in 1961, he had been doing research on seismology and geology in the West Indies (Tr. 3.3).

Dr. Tomblin became associated with the University of the West Indies in 1964 as a scientist with a seismic research unit and since 1968 he had been head of the research department. He stated that his department, consisting of a staff of six scientists, was responsible for monitoring and reporting earthquake and volcanic activity in the Caribbean, particularly the British Commonwealth islands (Tr. 3.3-3.6) and cooperates and exchanges information with the United States'

seismic station at Cayey, Puerto Rico and the National Earthquake Information Service in Boulder, Colorado (Tr. 3.3-3.4, 3.6-3.7). Dr. Tomblin stated that he had written various publications on the seismicity of the Caribbean (Tr. 3.4), and was a member of the Seismological Society of America, the Geological Society of America, Geological Society of London, and Geochemical Society of Geominerals (Tr. 3.5).

Dr. Tomblin defined geology as the study of the earth (Tr. 3.5) and seismology as the study of earthquakes (Tr. 3.5). He defined earthquake, as follows: "A trembling of the ground caused by natural causes and with origin within the earth." He said there were two kinds of earthquakes—*viz.*, earthquakes that originate from rock fracture and mountain building, known as tectonic earthquakes, and earthquakes that occur under dormant or active volcanoes, which are very shallow earthquakes (Tr. 3.7).

Dr. Tomblin described the purpose and function of a seismograph (Tr. 3.7-3.8, 3.10-3.11) and stated that this instrument was regarded as highly accurate and authoritative as to recording any movement of the ground and the time of such movement (Tr. 3.9). He stated that the epicenter of an earthquake is the point upon the earth's surface beneath which the earthquake took place (Tr. 3.9). He said that earthquakes invariably took place beneath the surface of the earth in the Caribbean, normally between 20 and 200 kilometers (15 to 130 miles), and a series of shock waves radiate out from the source (Tr. 3.9). Dr. Tomblin drew an illustrative map on a blackboard and explained how the epicenter was located by seismographs and computers and described how the primary and secondary seismic

waves travelled through the earth (Tr. 3.10-3.20, 3.40-3.43).

Dr. Tomblin testified that the seismogram from the Cayey, Puerto Rico Station (P-10) did not indicate any earthquake activity between the hours of 12:01 a.m. and 8 a.m. on December 8, 1974 (Tr. 3.23). Dr. Tomblin stated that, based on textbooks and his own experience in the Caribbean, an earthquake of sufficient magnitude (Richter Scale) to cause a landslide or rockslide would have a ground movement level corresponding to an intensity of VII on the Modified Mercalli Scale on St. Thomas (Tr. 3.24, 3.26). He said that an earthquake of that magnitude and intensity would have registered on the Cayey seismogram (Tr. 3.24), as did the earthquake on April 14 to April 15, 1968 (P-11, Tr. 3.25-3.26).

Dr. Tomblin stated that the Modified Mercalli Scale as published at pages 136-138 of *Richter, Elementary Seismology* (P-37) was accepted by seismologists worldwide (Tr. 3.27-3.28) and discussed what would be experienced at various levels of intensity (Tr. 3.28-3.31, 3.52). He stated that his own experience in the Caribbean as a seismologist had been consistent with the classifications appearing in the Modified Mercalli Scale (Tr. 3.31). He stated that the only landslide that he had seen in the Caribbean that could be attributed to earthquake was a small landslide caused an intensity VIII earthquake on Antigua on October 8, 1974 (Tr. 3.26, 3.30-3.31). He said that the other landslides and rockslides he had seen were caused by water in the ground after heavy rains (Tr. 3.31-3.32).

Dr. Tomblin stated that he had examined the quarry site and cliff at Haypiece Hill (Tr. 3.32) and that the

composite photographs (P-39 and P-40) showed the condition of the site and cliff at the time of his visit (Tr. 3.33).

Based upon his visit to the quarry, the rainfall records, photographs of the rockslide of December 8, 1974, and his knowledge and experience concerning earthquakes and landslides, Dr. Tomblin was of the opinion that the rockslide of December 8, 1974 was due to unusually heavy rain and water saturation (Tr. 3.33). He stated that there was absolutely no evidence that the rockslide was caused by earthquake (Tr. 3.34). He stated that earthquakes in the Virgin Islands originate way out below the sea bed and deep in the earth (20 to 100 miles) (Tr. 3.34-3.35, 3.47), and that an earthquake of sufficient magnitude and intensity to cause a rockslide would register on the seismograph at Cayey and be generally felt by people on St. Thomas and cause damage to buildings (Tr. 3.34-3.35). He stated that he had examined the fault Dr. Donnelly had found at the bottom of Haypiece Hill and found no evidence that the fault had been active in recent times, possibly for thousands or millions of years (Tr. 3.35). He said had there been movement of the fault, there would have been damage to the masonry buildings near the fault line and in Charlotte Amalie (Tr. 3.36).

Dr. Tomblin said that the records for December 8, 1974 for this part of the Caribbean showed absolutely no evidence of earthquake (Tr. 3.34). He stated that the Antiguan earthquake on October 8, 1974 had an intensity of IV in the Virgin Islands and would not have been sufficient to trigger a landslide (Tr. 3.39). He again stated that it would take an earthquake of intensity VII in the Modified Mercalli Scale to dislodge

the cliff on Haypiece Hill (Tr. 3.63-3.64). He then reviewed the various phenomena that would be experienced at intensity VII—i.e., it would be difficult to stand, damage to masonry, small cave-ins along sand or gravel banks, etc. (Tr. 3.64-3.67).

Dr. Tomblin was later recalled for rebuttal testimony (Tr. 5.165-5.169). He stated that when the rockslide of December 8, 1974 hit the ground, it would send out shock waves that could not be distinguished from earthquake tremors (Tr. 5.166). He said that this would be equivalent to a Richter magnitude 2 and a Mercalli intensity of II (Tr. 5.166). He felt that the energy involved in this mass of rock hitting the ground would be felt by favorably placed persons at a distance of less than a mile from the source (Tr. 5.167-5.170).

Warren Henry Spiller, called as a witness for the defendants (Tr. 3.92-3.115, 5.142-5.150), testified that he was general manager of the St. Thomas branch of Videfreeze Corporation and secretary of the corporation (Tr. 3.92). He identified defendant's exhibit D-D as a photograph of the building Videfreeze leased from Chinnery Development Corporation (Tr. 3.95).

Mr. Spiller stated that a rockslide had occurred in late October or early November 1974 during a period of heavy rainfall (Tr. 3.96-3.99). He stated that this rockslide was much smaller than the December 8, 1974 rockslide and just dented the outer skin of the building (Tr. 3.97-3.99).

Mr. Spiller testified that, on the evening of December 7, 1974, he and his wife were at the Villa Olga nightclub when he received a call from the police that there might be somebody breaking into the building (Tr. 3.99-

3.100). He said that he arrived at the building about midnight, checked the entire building, including the rear wall, and found nothing wrong (Tr. 3.100). There had been no rockslide at that time (Tr. 3.107).

Mr. Spiller said that, after checking the premises at midnight, he returned to the Villa Olga and remained there for about an hour or hour and a half and then went home (Tr. 3.112). He marked the location of both the Villa Olga and his home on a map of St. Thomas (P-33, Tr. 3.114-3.115). He stated that neither he nor his wife felt any earth tremors or shaking during the evening (Tr. 3.113, 3.115).

Mr. Spiller identified several photographs (D-B, D-E, D-F, D-G) as showing what he saw when he arrived at the scene on Sunday, December 9, 1974, at approximately 10:30 a.m. (Tr. 3.102-3.105, 107-108).

Louis Shulterbrandt, called as a witness on behalf of the defendants (Tr. 3.115-3.163) testified that he lived on Blackbeard's Hill at the top of the 99 Steps (Tr. 3.116, 3.123) and marked the location of his residence on a map of St. Thomas. Mr. Shulterbrandt testified that he was a stockholder and president/treasurer of David E. Chinnery Development Corporation (Tr. 3.116) and had formerly been the first assistant to the Governor of the Virgin Islands (Tr. 3.131). Mr. Shulterbrandt stated that the buildings owned by the corporation were located in the Sub-Base area of St. Thomas at the rock quarry site at the bottom of Haypiece Hill and that this land was leased from the Virgin Islands Government (Tr. 3.127-3.128). He said that one of the buildings was subleased to Videfreeze Corporation (Tr. 3.130).

Mr. Shulterbrandt stated that he was a friend and business associate of David E. Chinnery (Tr. 3.125) and was occupied by Videfreeze in December 1973 (Tr. 3.126). He stated that he and William Demetree were major stockholders, with a small number of shares being held by Mr. Chinnery and Mr. Birch (Tr. 3.126). Construction of the first building began in May 1973 and was occupied by Videfreeze in December 1973 (Tr. 3.129, 3.131). The second building was constructed during 1974 (Tr. 3.131). During heavy rains of October 1974, there was a rockslide that did minor damage to the building (Tr. 3.119-3.120, 3.131). Mr. Shulterbrandt attributed the October 1974 rockslide to the heavy rains (Tr. 3.120). He stated that, at the time, he looked at the cliff and saw a potentially dangerous situation (Tr. 3.142). Therefore, on October 30, 1974, he wrote a letter (P-20), notifying his landlord, the Virgin Islands Government, of the damage caused by the rockslide during the heavy October rains and asking the Government what corrective action it intended to take about the unstable cliff face of Haypiece Hill (P-20; Tr. 3.131-3.132, 3.138-3.139, 3.142, 3.146-3.147).

Mr. Shulterbrandt said he first learned of the December 8, 1974 rockslide when he received a telephone call from Frank Packard about 10:30 a.m., Sunday, December 8, 1974 (Tr. 3.121). He said he called his insurance agent, Ronald Gross, and Warren Spiller, stockholder and manager of Videfreeze (Tr. 3.121, 3.143). He said he found huge rocks at the scene (Tr. 3.123) and identified photigraphs (defendant's exhibits D-B, D-E, D-F, D-G) as showing what he found at the scene (Tr. 3.123).

Mr. Shulterbrandt testified that, on December 9, 1974, he sent letters (P-26, P-27) to both the Virgin

Islands government and his insurance agent, notifying them of the rockslide (Tr. 3.140, 3.148-3.149, 3.159). He further testified that, on December 11, 1974, his attorney sent a second letter (P-28) to the Virgin Islands Government (Tr. 3.145, 3.153-3.154). Although the court allowed the witness to testify that these letters were sent, the actual letters (P-26, P-27, and P-28) were excluded from evidence because the judge felt that the absence of any mention of earthquake in said letters was prejudicial to the defendants (Tr. 3.133-3.136). Mr. Shulterbrandt stated that he had subsequent conversations with officials of the Virgin Islands Government (Tr. 3.160-3.162) and that the government paid a portion of the bill for removal of rock from the slide area (Tr. 3.162).

Mr. Shulterbrandt testified that he did not feel an earthquake or anything unusual on the night of December 7-8, 1974 (Tr. 3.121, 3.140). He said that the first indication he had of an earthquake came from a telephone call from Walter Chinnery (nephew of David Chinnery) on December 10 or 11, 1974 (Tr. 3.141).

Franklin James Packard, called as a witness on behalf of the defendants (Tr. 3.165-3.174) testified that he had been a resident of St. Thomas for ten years (Tr. 3.164). He marked the location of his residence on maps of St. Thomas (P-33 and D-H) (Tr. 3.168-3.170). Mr. Packard stated that he had formerly been employed by Dutch Master Paint and was presently the Court's custodian of the Dutch Masters building, just east of the Chinnery/Vidafreeze buildings (Tr. 3.164).

Mr. Packard said that he had taken a basic geology course in school (Tr. 3.176), but admitted that he was

not qualified to speak as a geologist (Tr. 3.129). He said he had geology books at home, including a green pamphlet written by Dr. Thomas W. Donnelly on the geology of St. Thomas (Tr. 3.176). At this point, defendants' counsel stated that the map identified as defendant's exhibit D-H had come from that book (Tr. 3.177).

Mr. Packard stated that, late in the evening of December 7-8, 1974, he felt an earth tremor and told his wife, "Listen, here comes the train" (Tr. 3.166, 3.180). He said that he could not recall the exact time and that it could have been 10 p.m. and 2 a.m.

Mr. Packard stated that, on Sunday, December 8, 1974, he went to the Sub-Base at about 10:00 or 10:30 a.m. and found that a rockslide had occurred and caused damage to the Chinnery/Videfreeze building (Tr. 3.166). He identified a photograph (defendant's exhibit D-G) as showing what he found at the scene (Tr. 3.166).

Mr. Packard said that, although he saw Mr. Shulterbrandt and others on December 9, 1974, at the scene of the rockslide, he made no mention of the earth tremor he felt the night before (Tr. 3.167-3.168). He said that he did not mention feeling the earth tremor to Mr. Shulterbrandt, Mr. Demetree, Mr. Spiller, their attorneys, or anyone else until Saturday, September 20, 1975 (more than ten months later and just two days before the trial of the case *sub judice*) (Tr. 3.170-3.171).

On cross-examination, Mr. Packard admitted that, on May 21, 1975, he had given a written statement (P-47) which said: "I don't have any idea what may have caused the rockslide at the Videfreeze building

but there was heavy rain in this area prior to the rockslide and probably aggravated the existing condition of the rock" (P-47; Tr. 3.171-3.172, 3.175). Mr. Packard said that there was no question that he had made that statement at that time (Tr. 3.172). The written statement was introduced into evidence (Tr. 3.174).

Pedro F. Lopez was called as a witness by the defendants (Tr. 4.9-4.32), following certain preliminary objections to his testimony (Tr. 4.2-4.9). Mr. Lopez testified that he lived at the top of Raphune Hill on St. Thomas with his wife and daughter, in a house with 18 inch thick masonry walls and reinforced concrete floor (Tr. 4.10-4.12). He marked the location of his home on two maps (P-33 and D-H) (Tr. 4.10-4.11). Mr. Lopez stated that he felt an earth tremor in the early morning hours during the early part of December 1974, when he was awakened by sideward motion of his bed and shaking of the house (Tr. 4.12-4.15, 4.27-4.32). He said that he could not recall the date or the day of the week, but that it was a few days before he read a newspaper article about damage to the Chinnery/Videfreeze buildings and a subsequent discussion at a Rotary Club meeting on a Thursday (Tr. 4.15-4.26). He said he could not state the exact time of night, but it was between 12 midnight and 5:00 a.m. (Tr. 4.28).

Walter Chinnery, called as a witness on behalf of the defendants (Tr. 4.23-4.51), testified that he lived with his wife on St. Thomas (Tr. 4.23-4.33). He marked the location of his residence on a map (P-33) (Tr. 4.32-433, 4.43-4.46). He testified that he was the nephew of David E. Chinnery, minority stockholder in David E. Chinnery Development Corporation (Tr. 4.34, 4.46-4.47). He stated that he was in the restaurant business and

had done business with Videfreeze Corporation for ten years (Tr. 4.35-4.36).

Mr. Chinnery stated that he learned of the landslide and damage to the Chinnery/Videfreeze buildings when he called to order frozen food for his restaurants (Tr. 4.36-4.37). He said that the night before, at about 1:00 or 1:30 a.m., he had felt an earth tremor shake the house (Tr. 4.37-4.40). He said that the tremor was light (Tr. 4.49-4.50) and lasted about a minute or minute and a half (Tr. 4.50).

Ida Chinnery, called as a witness on behalf of the defendants (Tr. 4.52-4.56), testified that she was the wife of Walter Chinnery (Tr. 4.52). Mrs. Chinnery stated that, on December 8, 1974, between 1:00 and 1:30 a.m. she felt an earth tremor shake her bed (Tr. 4.52, 4.54-4.55). She said that she observed nothing else and there was no sound connected with it (Tr. 4.55).

Walter Yaude, a licensed engineer and Director of Campus Development for the College of the Virgin Islands, was called as an expert witness on behalf of the defendants (Tr. 4.60-4.120). Following direct examination (Tr. 4.60-4.75) and *voir dire* cross-examination (Tr. 4.75-4.86), pertaining to his qualifications and expertise regarding earthquakes, geology, and rockslides, Judge Young ruled that, while Mr. Yaude might testify as to rock formation or physical facts that he had perceived, he was not qualified to express an expert opinion that the rockslide was caused by earthquake (Tr. 4.100-4.107, 4.115-4.120), and could not give a conclusionary opinion that the rockslide was not caused by water alone, without giving any reasons for such opinion and thereby implying by innuendo that it was caused by earthquake (Tr. 4.108-4.133, 4.116-4.119).

Wellington Bertolet, a licensed engineer and architect, was also called as a witness by the defendants (Tr. 4.120-4.148). Following direct examination (Tr. 4.120-4.127) and *voir dire* cross-examination (Tr. 4.127-4.139) pertaining to qualifications and expertise regarding earthquakes, geology, and landslides, Judge Young ruled that Mr. Bertolet did not have the expertise to qualify him as an expert in the fields of geology or seismology and that his background and experience as an engineer and architect did not qualify him to give an expert opinion that an earthquake caused the rockslide (Tr. 4.140-4.148) and that he could not give a conclusionary opinion that the rockslide was not caused by water alone, without giving the reasons for such opinion and thereby implying by innuendo that it was caused by earthquake (Tr. 4.143-4.148).

Justus A. Villa, called as an expert witness on behalf of the defendants (Tr. 4.152-4.200) testified that he had lived in the Virgin Islands for almost thirty years (Tr. 4.105) and that he was a licensed civil engineer (Tr. 4.152-4.153). He stated that he had a bachelor of science degree in civil engineering from Howard University (Tr. 4.153) and had received additional training in sanitary engineering at the University of Michigan (Tr. 4.153-4.154).

Mr. Villa stated that his engineering experience in the Virgin Islands had included work for the Government, work for contractors, and private consulting practice (Tr. 4.153-4.155). He stated that, over the years, he had taken notice of landslides and rockslides on St. Thomas and was very interested in this sort of thing (Tr. 4.156).

Mr. Villa said that Mr. Shulterbrandt retained him as a consultant, two or three days after the rockslide

(Tr. 4.158). He said that he had known Mr. Shulterbrandt for 28 years and that Mrs. Shulterbrandt was Godmother to one of his children (Tr. 4.198-4.199). At the time, Mr. Shulterbrandt told him that he "hoped that it had been caused by an earthquake" (Tr. 4.158).

By the time he visited the site of the rockslide, some of the rocks shown in the photographs (D-B, D-E, D-F, and D-G) had been removed (Tr. 4.159-4.161). Mr. Villa was of the opinion that the amount of rainfall prior to December 8, 1974 could have caused two or three truckloads of rock to slide off the hill (Tr. 4.171), but not the whole face of the cliff (Tr. 4.173).

Based upon his visits to Haypiece Hill in 1975, he was of the opinion that there was not much water in the interior of Haypiece Hill (Tr. 4.177-4.181). However, after examining rainfall records, he admitted that there had been more rain in October and November 1974 than for the first nine months of 1975 (Tr. 4.184). Asked to describe how the face of the quarry looked before the rockslide, he said: "Oh, that I can't do . . . It was just a rock, how can I describe it? I don't know how." (Tr. 4.186). He said that he did not study the cliff "like the way I study girls" (Tr. 4.186).

Mr. Villa later admitted that he didn't know how the brown rock became white (Tr. 4.188) and that an opinion about the permeation of water into the crevices of the brock rock on the cliff would be idle speculation on his part and beyond his scope as a civil engineer (Tr. 4.188). He also admitted that he did not know whether the sedimentation in the crevices of the rock was due to water passing through (Tr. 4.189-4.190). In contrast to the testimony of Dr. Donnelly,

who said the rock on Haypiece Hill was hard (Tr. 2.113), Villa thought it was soft (Tr. 4.192). He said that he had no opinion as to the amount of rock that fell (Tr. 4.192). He also admitted that rockslides usually occur on St. Thomas because of rain (Tr. 4.194).

Dr. Andrew Joseph Murphy, called as a witness on behalf of the defendants (Tr. 4.202-4.211, 5.5-5.142), testified that he resided in Norwood, New Jersey and was a research seismologist employed by Lamont Geological Observatory of Columbia University (Tr. 4.203-4.204). Dr. Murphy said that he received a bachelor of science degree in geophysics from St. Louis University in 1968 and a Ph.D. in pure science and applied science from Columbia University in May 1975 (Tr. 4.203). He said that his work had included the study of earth noises (Tr. 4.204, 4.207-4.208) and helping set up a network of seismographic stations in the Caribbean (Tr. 4.205-4.206). He stated that, while a normal seismologist was interested in earthquakes, he specialized in the study of background earth noise *other than earthquakes* (Tr. 4.207-4.208, 4.210-4.211). He acknowledged that such noises might be described as the "symphony of the earth" (Tr. 4.211).

Dr. Muryhy stated that background earth noise takes place constantly (Tr. 5.7) and includes movement of the ground up and down, the ocean beating on the shore, vehicles moving around, wind blowing on trees, and wind blowing on the ground (Tr. 5.5). Dr. Murphy said this type of earth noise had registered on both P-10 (seismogram which showed no earthquake for December 7-8, 1974) and P-11 (seismogram which showed an earthquake on April 15, 1968) (Tr. 5.7-5.9, 5.15). He stated that the epicenter for the April

15, 1968 earthquake was approximately equidistance from Cayey and St. Thomas (Tr. 5.15).

Dr. Murphy stated that he had first been contacted about testifying in the case approximately two weeks before the trial started and first arrived in St. Thomas on Sunday, September 21, 1975 (Tr. 5.37-5.40). He stated that his experience in the Caribbean was more limited than that of either Dr. Donnelly or Dr. Tomblin (Tr. 5.41). He said that, when he briefly visited St. Thomas in 1969 as a part of a team studying the feasibility of setting up a seismographic station there, he was accompanied by Dr. Donnelly and had sought information and data from Dr. Tomblin (Tr. 5.42).

After the two week trip in 1969, Dr. Murphy's next trip to the Caribbean was in October 1974, when he went to Antigua to record after-shocks from that quake (Tr. 5.44). Dr. Murphy stated that he made no study of rockslides or landslides resulting from the Antigua earthquake (Tr. 5.45). He said that he did not go around and question people about damage and the intensity of the earthquake, since Dr. Tomblin and his group were on Antigua at the time, gathering information about damage and the intensity of the earthquake (Tr. 5.44), as was another seismetric analysis group from Denver (Tr. 5.45).

Asked to describe the rock on Haypiece Hill, Dr. Murphy stated that he had "not paid that much attention to maintaining my knowledge of the rock" (Tr. 5.53). He stated that, being slightly color blind, he had difficulty with the rock and was "perfectly willing to accept the testimony from Dr. Donnelly and Dr. Tomblin and others who testified about the characteristics of this rock" (Tr. 5.53).

Dr. Murphy testified that the stability of the quarry cliff at Haypiece Hill would vary from time to time, depending on the amount of rain and water permeation of the ground (Tr. 5.29-5.34). He admitted that there was an unprecedented amount of rain in October and November 1974 (Tr. 5.33-5.34).

Dr. Murphy stated that the rainwater during the months of October and November 1974 was a material factor in his opinion as to the cause of the rockslide (Tr. 5.55, 5.113). He said that his opinion as to the saturation of Haypiece Hill was based primarily on the testimony of Dr. Donnelly (Tr. 5.112-5.114). He said that he did not accept Mr. Villa's testimony that water had no effect or no part in the rockslide (Tr. 5.57-5.58).

During cross-examination, excerpts were read to Dr. Murphy from *Geology and Engineering Practice,* McGraw Hill Book Company, including a statement of at page 416: "Probably the most important factor of all is a change in ground water conditions . . . The landslides that often accompany this result of intense rainfall are generally due to a corresponding change in ground water conditions . . . The presence of water underground has three main effects. It will increase the effective weight of the material that it saturates, it will tend to lubricate any sliding planes, especially if they are formed by material such as shales and clay that are affected by moisture, and it will tend to weaken many materials, including the weaker kinds of rock and unconsumundated materials with any clay content" (Tr. 5.51-5.52). Dr. Murphy agreed that this was a very reasonable sounding statement (Tr. 5.52).

Next, an excerpt was read from *Geology and Engineering Practice,* Volume 2: "Experience shows that

the water which seeps toward steep slopes during rainstorms does not displace enough air to destroy the occurring cohesion of sand or silt. However, if water percolates through the ground and towards the slope in large quantities and without any intermission, the air is almost completely expelled. The apparent cohesion is eliminated and the slope fails . . ." (Tr. 5.53).

Dr. Murphy said that the Cayey, Puerto Rico seismograph station was part of the world-wide system and that the recordings there were certainly acceptable (Tr. 5.44-5.45, 5.88). Dr. Murphy stated that, according to his calculations, the largest earthquake which could be felt on St. Thomas and not be recorded on Cayey would have a magnitude of 2 to 2.5 on the Richter scale (Tr. 5.17, 5.24-5.26, 5.74-5.75).

The witness admitted that, with respect to the seismology factors of his testimony, the writing in his hand was prepared by counsel for defendants (Tr. 5.58). He then discussed his calculations as to various Richter magnitudes, stating that he could not make these without his reference work notes, that he was uncertain as to the figures for certain magnitudes, and did not recall the exact formula he used in arriving at his estimation (Tr. 5.61-5.62).

Dr. Murphy said the Richter Scale was a logarithmic scale, with the energy level for Richter magnitude 2 being 10 times stronger than magnitude 1, the energy level of Richter magnitude 3 being 100 times stronger than magnitude 2, etc. (Tr. 5.17). He further stated that the energy level at Richter magnitude 4 would be 1,000 times stronger than magnitude 2 (Tr. 5.121-5.122) and that the energy level at Richter magnitude 5 was 10,000 stronger than at magnitude 2 (Tr. 5.122).

Asked to translate the Richter magnitude into Mercalli intensity, Dr. Murphy stated that a Richter magnitude of 2 to 2.5 corresponds roughly to a Modified Mercalli intensity of II to III (Tr. 5.18-5.19); and that 3.8 Richter magnitude corresponds to Modified Mercalli intensity IV (Tr. 5.24). He further stated that Richter magnitude 4 corresponds to Modified Mercalli intensity V (Tr. 5.121); and that Richter magnitude 5 corresponds to Modified Mercalli intensity VII (Tr. 5.122).

Dr. Murphy testified that normally landslides occur at Modified Mercalli intensity which would correspond to Richter magnitude 5 (Tr. 5.23, 5.120-5.121), but under highly unusual conditions at a particular spot it might be possible to have a landslide at Mercalli intensity VI (Tr. 5.22-5.23, 5.124) or in an extremely rare case at Mercalli intensity V, which would correspond to Richter magnitude 4 (Tr. 5.23-5.121, 5.125). However, on cross-examination, Dr. Murphy admitted that he accepted the Modified Mercalli scale as a good working scale and that it is definitely well applied (Tr. 5.45). He further admitted that he had never made a study of landslides or rockslides before being asked to do so in the present case (Tr. 5.45-5.46).

Referred to the table appearing in *Elementary Seismology,* page 353 (See Table IV, Appendix to Petition, p. 51a), showing the correlation between Richter magnitudes and Modified Mercalli intensity (Tr. 5.75-5.78), Dr. Murphy stated that he accepted this as an authoritative work (Tr. 5.77-5.78) and that the table there was a reasonable correlation (Tr. 5.78). He said that, as shown by the tables, Richter magnitudes 1 and 2 correlated with Mercalli intensity II, magnitude 3 with intensity III, magnitude 3.5 with intensity IV, magnitude 4 with intensity V, magnitude 5 with inten-

sity VI to VII, magnitude 7 with intensity IX to X (Tr. 5.77-5.78, 5.90-5.91).

Dr. Murphy described the various phenomena that would occur at various intensities, according to the Modified Mercalli scale appearing in Richter, *Elementary Seismology,* page 137 (See Table III, Appendix to Petition, pp. 48a-50a), including "small slides and caving in along sand and gravel bands" at intensity VII (Tr. 5.89, 5.123-5.124) and "large slides" at intensity X (Tr. 5.90).

Dr. Murphy said that, assuming an earthquake intensity as described by the four lay witnesses, he was of the opinion that it was reasonably probable that an earthquake caused the rockslide on December 8, 1974 (Tr. 5.27-5.28, 5.128). He later testified that he would define a probability as "one in a thousand or so" (Tr. 5.128).

Dr. Murphy acknowledged that most of the earthquakes felt on St. Thomas occur in the Puerto Rico Trench (Tr. 5.74, 5.86). However, he said that earthquakes could also occur south of St. Thomas, such as the 1867 earthquake in Antigua (Tr. 5.74). He also acknowledged that, according to existing scientific information, earthquakes felt by man in the area of the Caribbean near St. Thomas occurred deep in the earth, most of them occurring 45 miles or more below the surface (Tr. 5.80, 5.87-5.88). He admitted that, when he had earlier mentioned an earthquake under St. Thomas, he was referring to a "micro earthquake" or earth noise that could be detected with seismographs having 1,000,000 amplification, that could not be felt by man, and would not disturb a single grain of sand or pebble on the beach (Tr. 5.81-5.83, 5.87).

Dr. Murphy stated that he was familiar with the Data Search of Earthquake Data File, 1940-1974, Plaintiff's Exhibit P-12, and the Monthly Listing of Earthquakes from the National Earthquake Information Service, Plaintiff's Exhibit P-34, and that, according to these documents, there was no reported earthquake within 150 kilometers (90 miles) of St. Thomas on December 8, 1974 or during the entire month of December 1974 (Tr. 5.101-5.105). He further testified that he did not know, of his own knowledge, of any unlisted reported earthquake within 100 miles of St. Thomas during December 1974 (Tr. 5.104) and had no personal information regarding an earthquake on or near St. Thomas on December 8, 1974 (Tr. 5.108).

William Demetree, called as a witness by the defendants (Tr. 5.171-5.183), testified that he was a building contractor and one of the owners of David E. Chinnery Corporation (Tr. 5.171). He testified that there had been a small rockslide from the quarry face in October, 1974 (Tr. 5.174). He said that he could not remember whether there was another rockslide on November 12 or 13, 1974 (Tr. 5.180). He estimated that 350 to 400 cubic yards of rock fell during the December 8, 1974 rockslide (Tr. 5.175-5.176).

ARGUMENT

I.

Introduction

By way of introduction, Petitioner would like to share with the Court certain verse that, while presented in a humorous vein, both accurately summarizes the evidence and catches the essential flavor and essence of the case. This verse was composed by Gary Dixon, for-

mer law clerk to Judge Warren H. Young, the trial judge in the case *sub judice*. Mr. Dixon has since left the employment of the Court, after completing his one-year clerkship, and is now employed by Isherwood, Colianni, Alkon and Barnard, one of the law firms representing the Petitioner herein.

"Judge, Never Overturn a Verdict"

This is the saga of Haypiece Hill
And the day it came-a-tumbling.
No one knows what made it fall.
Some say the earth was rumbling.

The insurance company said right away:
"We're not going to pay";
And sure enough they filed a suit
To get the Court's O.K.

Fireman's Fund hired Atlanta born
Jim Jessee for the bout.
The defendants chose the local boys
The firm of Grunert, Stout.

And there upon the bench
Sat the learned Warren Young—
That giant of Fountain Valley fame,
Much justice he had done.

His law clerks were fresh and new.
There was Kertman out of Yale;
But after a few nights at the Mill,
They were looking rather pale.

The plaintiff started off the case.
It had the burden of the proof;
But we were later on to learn
That was another goof!

Plaintiff had to prove a negative—
That a quake didn't cause the slide;
And this to six Thomians
Who with the defense would side.

The plaintiff put on its evidence.
Its experts were superb!
And on cross-examination
Their testimony remained undisturbed.

Doctors Donnelly and Tomblin,
Seismologists quite reputable—
They spoke of scientific facts
That were virtually irrefutable.

Of magnitude and intensity.
And Richter we did learn
Modified Mercalli
And what seismographs discern.

The most crucial testimony
We all heard Donnelly say:
"A quake big enough to cause the slide
Would show up in Cayey"!

After plaintiff put on its case,
There was little doubt
That there hadn't been a quake that day
But we hadn't heard from Stout!

You have very sound evidence
Of judicial maturation
When the Court can stay awake
Through Stout on water saturation.

The defense case consisted of
Some relatives and some friends
And even a few experts
On whom they could not depend.

A few witnesses testified
That there had been a tremor.
But when pressed on the details,
They really couldn't remember.

They even had Frank Packard
Who said there'd been a quake
He'd totally forgotten
A contrary statement he did make.

The defense knew to hold a verdict
They needed more than a mere scintilla
So they called a civil engineer
By the name of Justus Villa.

Still they needed some experts
To say there'd been a quake
They tried with Yaude and Bertollet
Who did not "experts" make.

"But your honor", cried John Stout,
"You've taken away my case.
It's on their expert testimony
That an earthquake we will base!"

"I'm sorry sir", replied the Judge,
"These men can't testify.
It's your responsibility
To see that they qualify."

But John Stout is a fighter.
He had one remaining hunch.
After he left chambers,
He took Dr. Murphy out to lunch.

As to Dr. Murphy
In probabilities he does deal.
Which means *once in 1,000 times,*
Or so he seemed to feel.

After lunch, he took the stand
And said there was a 'quake.
Though he was less than positive
In the statement he did make.

That ended all the evidence
The case went to the jury
With Saturday night fast approaching
They wanted a decision in a hurry.

They soon returned a verdict
Much to our disbelief.
They'd ignored the evidence
Affording plaintiff no relief.

A finding of liability
Doth not an earthquake make
And so the jury's verdict
The Judge did boldly take.

The Judge considered the entire matter
Very carefully
Before deciding that he had to
Grant a judgment n.o.v.

Way over here on St. Croix
We heard John Stout squeal.
Before the Goose could crash again,
He'd filed his appeal.

You probably know all the rest.
It really needn't be told.
The Third Circuit told Judge Young
"You shouldn't be so bold!"

They said, "dear Judge, you don't upset
The verdict of the jury.
If they ignore the evidence
It's not your place to worry."

I was just a law clerk
But I truly did feel smitten
When those appellate judges
Mocked some words that I had written

Now I know the feeling, Judge,
When they tell you, you were wrong.
But they didn't hear the evidence
And the plaintiff's case so strong!

I guess that's just "sour grapes"
Because they did reverse.
I think I'll leave the law books now
And take up writing verse.

This is a sad, sad story.
No one comes out ahead.
Fireman's Fund's unhappy
And Videfreeze is dead.

That is except for lawyers
They always earn their fee.
There will be a second trial
Which for them means more money.

As with all life's trials
There is a lesson we can learn.
I'm sure there is one somewhere here
If you will discern.

Be certain to remember, dear Judge,
That next earthquake you undo,
That appellate judges are infallible
Just like me and you!

Best Wishes, Judge,

Gary

September 11, 1976

II.

Reasons for Granting Certiorari

Petitioner states that the Petition for Writ of Certiorari is presented in good faith and not for the purpose of delay. Counsel for Petitioner expresses a belief, based upon reasoned and studied professional judgment, that the decision of the three-judge panel of the United States Court of Appeals for the Third Circuit is contrary to and in conflict with decisions of the Supreme Court of the United States and decisions of United States Courts of Appeals in other Circuits; and that this Petition for Writ of Certiorari involves questions of exceptional importance, to-wit: (1) whether Courts of Appeals should follow the "reasonable man" test with regard to motions for judgment notwithstanding the verdict, or follow the "any evidence rule"; and (2) whether Courts of Appeals should apply the "physical facts rule" in connection with the "reasonable man" test; and (3) whether Courts of Appeals should allow the testimony of an expert to be based upon mere speculation and surmise.

With regard to the Court of Appeals' refusal to apply the "reasonable man" test to motions for judgment notwithstanding the verdict, the decision of the three-judge panel entered August 25, 1976 (Appendix to Petition, 21a-40a) is contrary to and in conflict with: (a) decisions of the Supreme Court of the United States; (b) decisions of the United States Courts of Appeals for the Second, Fifth, Sixth, Seventh, Eighth, Tenth and District of Columbia Circuits; and (c) even decisions by other panels of the United States Court of Appeals for the Third Circuit.

III.

The Court of Appeals Erroneously Applied the "Any Evidence Rule" Instead of the "Reasonable Man" Test as the Standard for Motions for Directed Verdict and Motions for Judgment Notwithstanding the Verdict.

Said Decision Is Contrary To and in Conflict with Decisions of the United States Supreme Court, Decisions of U. S. Courts of Appeals in Other Circuits, and Even Other Decisions of the Third Circuit Court of Appeals.

In its opinion and judgment of August 25, 1976, the Court of Appeals misapprehended the test to be applied to a motion for judgment notwithstanding the verdict and, in effect, applied the "any evidence rule" criticized in 9 *Wright and Miller, Federal Practice and Procedure* § 2524, page 547, note 46. In so holding, the Court of Appeals overlooked contrary and conflicting decisions of the United States Supreme Court; United States Court of Appeals for the Second, Fifth, Sixth, Seventh, Eighth, and District of Columbia Circuits; and even prior decisions of the United States Court of Appeals for the Third Circuit.

The elements of the "reasonable man" test are stated in three decisions of the Supreme Court of the United States, *viz.*: *Gunning* v. *Cooley,* 281 U.S. 90, 50 S.Ct. 231, 74 L. Ed. 720 (1930) (evidence must be "overwhelming on one side"); *Galloway* v. *United States,* 319 U.S. 372, 63 S. Ct. 1077, 87 L. Ed. 1458 (1943) ("mere speculation" not allowable); and *Brady* v. *Southern Railway Company,* 320 U.S. 476, 64 S. Ct. 232, 88 L.Ed. 239 (1943) (directed verdict proper where "there can be put one reasonable conclusion").

The "reasonable man" test is also the predominant test now applied in other circuits. See *Boeing Company* v. *Shipman,* 411 F.2d 365 (5th Cir. 1969) (*en banc* decision); *Simblest* v. *Maynard,* 427 F.2d 1 (2nd Cir. 1970); *Pergola* v. *Pennsylvania Railroad Company,* 311 F.2d 837, 838-839 (6th Cir. 1963); *Classic Bowl, Inc.* v. *AMF Pinspotters, Inc.,* 403 F.2d 463 (7th Cir. 1968); *Giordano* v. *Lee,* 434 F.2d 1227, 1231 (8th Cir. 1970); *Taylor* v. *National Trailer Convoy, Inc.,* 433 F.2d 569, 571-572 (10th Cir. 1970); *Klein* v. *District of Columbia,* 133 U.S. App. D.C. 129, 409 F.2d 164 (D.C. App. 1969); 5 *Moore's Federal Practice* (2nd Edition) Para. 50.02(1) and 9 *Wright and Miller, Federal Practice and Procedure* § 2524, pages 545-546.

However, there are still decisions that apply the "any evidence rule", *e.g.*: *Burchill* v. *Kearney-National Corporation,* 468 F.2d 384, 387 (3rd Cir. 1972); and *Warner* v. *Billups Eastern Petroleum Company,* 406 F.2d 1058 (4th Cir. 1969). In the *Burchill* case, the Third Circuit Court of Appeals stated, at page 387: "It was for the trier of facts to determine the preponderance of the evidence so long as *any* evidence supported the plaintiff's theory of the case" (emphasis supplied). Similarly, in the *Warner* case, the Fourth Circuit Court of Appeals stated, at page 1059: "We have previously held that judgment n.o.v. should not be granted if there was *any* evidence in the case that would authorize a verdict for the plaintiff!" (emphasis supplied).

In the case *sub judice,* the three-judge panel of the Third Circuit Court of Appeals did not apply or even mention the "reasonable man" test, but merely held that the speculative "1000 to 1" probability of Dr.

Murphy was sufficient to carry the case to the jury. Petitioner submits that this is a clear-cut application of the "any evidence rule", contrary to the standard laid down by this Court in the *Gunning, Galloway,* and *Brady* cases, *supra.*

It is interesting to note that, prior to the decisions in *Burchill* v. *Kearney-National, supra,* and the case *sub judice,* the Third Circuit Court of Appeals followed the "reasonable man" test. See *Ryan Distribution Corporation* v. *Caley,* 147 F.2d 138 (3rd Cir. 1945); *Eisenberg* v. *Smith,* 263 F.2d 827 (3rd Cir. 1959); *Woods* v. *National Life and Accident Insurance Company,* 347 F.2d 760 (3rd Cir. 1965); and *Pieseski* v. *Baltimore & Ohio Railway Company,* 393 F.2d 900, 902 (3rd Cir. 1968).

Petitioner further submits that an interesting parallel exists between this case and decisions of the Fifth Circuit Court of Appeals on the same subject. In *Boeing Company* v. *Shipman,* 380 F.2d 507 (5th Cir. 1968), a three-judge panel held that the "any evidence rule" was the proper standard to be applied to motions for directed verdicts and motions for judgment notwithstanding the verdict. However, on motion for rehearing *en banc,* the Court as a whole held that the three-judge panel had applied the wrong standard and that the correct standard to be applied was the "reasonable man" test. *Boeing Company* v. *Shipman,* 411 F.2d 365, 373-375. This test was stated by the Court at pages 374-375, as follows:

> "*If the facts and inferences point so strongly and overwhelmingly in favor of one party that the Court believes that reasonable men could not arrive at a contrary verdict, granting of the motions is proper.* On the other hand, if there is substantial evidence opposed to the motions, that is, evidence of such quality and weight that reasonable and fair-minded men in the exercise of impartial judgment might reach difference conclusions, the motions should be denied, and the case submitted to the jury. A mere scintilla of evidence is insufficient to present a question for the jury. The motions for directed verdict and judgment notwithstanding the verdict should not be decided by which side has the better of the case, nor should they be granted only when there is a complete lack of probative facts to support a jury verdict. There must be conflict in substantial evidence to create a jury question." (emphasis supplied)

In stating the "reasonable man" test the Fifth Circuit Court of Appeals reviewed numerous decisions on the subject, including the three previously cited United States Supreme Court cases *viz.*: *Gunning* v. *Cooley,* 281 U.S. 90, 50 S. Ct. 231, 74 L. Ed. 720 (1930) (evidence must be "overwhelming on one side"); *Galloway* v. *United States,* 319 U.S. 372, 63 S. Ct. 1077, 87 L. Ed. 1458 (1943) ("mere speculation" not allowable); and *Brady* v. *Southern Railway Company,* 320 U.S. 476, 64 S. Ct. 232, 88 L. Ed. 239 (1943) (directed verdict proper where "there can be but one reasonable conclusion").

IV.

Judge Young's Evaluation of the Evidence Was Proper in View of the Trial Court's Duty To Determine Whether the Evidence Was Overwhelming in Favor of Plaintiff and Whether There Was Substantial Evidence To Support a Contrary Conclusion.

In its opinion and judgment of August 25, 1976 (Appendix to Petition pp. 21a-40a), the Court of Appeals criticized Judge Young for commenting on the

testimony of the defendants' witnesses (See Judge Young's opinion at 68 F.R.D. at pages 492-493) and characterized such comments as attempts to pass on the credibility of the witnesses and determine the preponderance of the evidence. In so holding, the Court of Appeals misconstrued such comments and overlooked the fact that such comments are indeed appropriate when applying the "reasonable man" test to determine whether the evidence was overwhelming in favor of the plaintiff and whether there was substantial evidence to support a contrary conclusion. *Brady* v. *Southern Railway Company,* 320 U.S. 476, 64 S.Ct. 232, 88 L.Ed. 239 (1943); and *Boeing Company* v. *Shipman,* 411 F. 2d 365 (5th Cir. 1969) (*en banc* decision).

In his order and judgment of October 15, 1975, Judge Young stated, in 68 F.R.D. at pages 492-493:

> "Having carefully considered the evidence and being mindful of the limited role of a trial judge when reviewing a jury verdict on a motion for a judgment notwithstanding the verdist, it is my firm conviction that *reasonable minds could properly have reached only one conclusion in this case,* that the defendants did not suffer "direct loss by earthquake", and that judgment should be entered for the plaintiff notwithstanding the verdict. The defendants *hardly presented substantial evidence* in support of their position that an earthquake occurred at all in St. Thomas on December 8, 1974, especially in view of *the overwhelming evidence to the contrary.*" (emphasis supplied)

Thus, it is seen that Judge Young was merely applying the "reasonable man" test in evaluating the evidence to see whether it was overwhelming in favor of the plaintiff and whether the defendants had produced substantial evidence to the contrary. Therefore, it is

respectfully submitted that Judge Young's comments on the evidence were proper.

V.

There Are No "Private Earthquakes" in the Virgin Islands

The Respondents contend that there was a small localized earthquake on December 8, 1974, causing a rockslide that damaged the Chinnery/Videfreeze buildings, without causing any other landslides or damages to any other man-made structures, and was felt by only four favorably placed individuals. This contention is contrary to the physical facts and laws of nature.

An earthquake has been defined as "a shaking or trembling of the earth that is volcanic or tectonic in origin." *Webster's New Collegiate Dictionary,* 1975, p. 357. There has been no volcanic activity in the Puerto Rico and Virgin Islands regions for tens of millions of years. Molnar and Sykes, *Tectonics of the Caribbean and Middle Regions from Focal Mechanisms and Seismicity,* Geological Society of America Bulletin, Vol. 80, 1969, p. 1655; Donnelly, T. W., *The Geology of St. Thomas and St. John, U. S. Virgin Islands,* Geological Society of America Memoir 98, Caribbean Geological Investigations, 1966; and Donnelly, T. W., *Evolution in the Eastern Great Antilles Arc,* Bulletin, American Association of Petroleum Geologists, Vol. 48, May 1964, p. 686.

The earthquakes in the Puerto Rico and Virgin Islands region are tectonic in origin, due to relative motion of portions of the earth known as "plates", with the Caribbean plate moving easterly with respect

to the Americas plate and the Americas plate underthrusting the Caribbean in a westerly direction at the Lesser Antilles and near Puerto Rico. Molnar and Sykes, *supra,* pages 1639-1642, 1654-1658. Tectonic earthquakes are discussed in Chapters 13 and 14 of Richter, *Elementary Seismology,* pages 168-209.

Earthquakes in this region originate far out in the sea bed northwest of the Virgin Islands in an area known as the Puerto Rico Trench. See Dr. Donnelly's testimony (Tr. 2.140-2.141), Dr. Tomblin's testimony (Tr. 3.9, 3.34-3.35, 3.47), Mr. Vazques' testimony (Tr. 2.72) and Dr. Murphy's testimony (Tr. 5.74, 5.86) in this regard. See also, Sykes and Ewing, *The Seismicity of the Caribbean Region,* Journal of Geophysical Research, Volume 70, No. 20, October 15, 1965, pages 5070-5073. Therefore, as stated by both Dr. Donnelly and Dr. Tomblin, an earthquake of sufficient size to cause the rockslide on St. Thomas would have been recorded at the Cayey seismograph station (Tr. 2.155-2.159, 3.24).

Dr. Tomblin pointed out that it would take an earthquake of Intensity VII on the Modified Mercalli Scale to dislodge the cliff on Haypiece Hill and that the effects of such an earthquake would be widely felt and produce the various phenomena indicated on the Mercalli Scale for an intensity VII earthquake (See P-37, a copy of which is attached to the Appendix to this Petition for Writ of Certiorari as Table III pp. 48a-50a). Dr. Donnelly agreed that such an earthquake would be generally felt and stated that you could not have a "private earthquake" limited to two acres of land (Tr. 2.157).

VI.

In Applying the "Reasonable Man Test" the Court of Appeals Should Have Examined the Physical Facts and the Laws of Nature.

In reviewing the grant of the motion for judgment notwithstanding the verdict, the evidence should be evaluated by examining the physical facts and the laws of nature. The testimony of a lay witness that he felt an earth tremor or earthquake on a certain date, which is contrary to the physical and scientific facts, is without any probative value. *Colna* v. *Northern Metal Co.,* 242 F. 2d 546, 549 (3rd Cir. 1957); *Zollman* v. *Symington Wayne Corporation,* 438 F. 2d 28, 31 (7th Cir. 1971); *McDonald* v. *Ford Motor Company,* 42 Ohio St. 2d 8, 326 N.E. 2d 252 (1975); *O'Connor* v. *Pennsylvania Railway Co.,* 308 F. 2d 911 (2nd Cir. 1962); 21 *Modern Federal Practice Digest,* Evidence key number 588; and and 9 *Wright and Miller, Federal Practice and Procedure* § 2527, pages 560-561.

In the cited treatise, the authors state, at pages 560-561:

> "Thus it is well settled that no weight is to be given to testimony that is opposed to the laws of nature or undisputed physical facts. 'Plaintiff cannot prevail in a case of this kind if the evidence on which he relies is in irreconcilable conflict with immutable laws of physics or is wholly inconsistent with established and uncontroverted physical facts. And where natural laws of physics or uncontroverted physical facts speak with such commanding force that they completely overcome and reduce to sheer absurdity the evidence offered by plaintiff to the contrary, the court should direct a verdict against plaintiff...."

In *Zollman* v. *Symington Wayne Corporation, supra,* the Court of Appeals for the Seventh Circuit stated the "physical facts rule", as follows:

> "It is well settled in this jurisdiction that the testimony of a witness which is opposed to the laws of nature, or which is clearly in conflict with principles established by the laws of science, is of no probative value and the jury is not permitted to rest its verdict thereon...."

In *Colna* v. *Northern Metal Co., supra,* the Third Circuit Court of Appeals, applying Pennsylvania law, held it to be settled:

> "That testimony in conflict with the incontrovertible physical facts and contrary to human experience and the laws of nature must be rejected...."

A good discussion of the "physical facts rules", with citations from several jurisdictions, is also found in *McDonald* v. *Ford Motor Co., supra,* at page 255, wherein the Supreme Court of Ohio lays out a test for the application of the rule, as follows:

> "'The palpable untruthfulness' of plaintiff's testimony requiring a trial court to take a case from the jury under the physical facts rule 'must be (1) inherent in the rejected testimony, so that it contradicts itself or (2) irreconcilable with facts of which, under recognized rules, the court takes judicial knowledge, or (3) is obviously inconsistent with, contradicted by, undisputed physical facts (citations). Each of these formulations strikes a balance between, on the one hand, the common sense notion that physical facts and evidence can be so conclusive and demonstrative that no reasonable person could accept the truth of contrary testimony, and, on the other hand, the need for courts

> to be wary of treating a party's theory of a case as 'fact', when a different theory is also possible in the case."

Earthquakes in Puerto Rico and Virgin Islands region originate far out in the sea bed northwest of the Virgin Islands in an area known as the Puerto Rico Trench. See Dr. Donnelly's testimony (Tr. 2.140-2.141), Dr. Tomblin's testimony (Tr. 3.9, 3.34-3.35, 3.47), Mr. Vazques' testimony (Tr. 2.72) and Dr. Murphy's testimony (Tr. 5.74, 5.86) in this regard. See also Sykes and Ewing, *The Seismicity of the Caribbean Region,* Journal of Geophysical Research, Volume 70, No. 20, October 15, 1965, pages 5070-5073. There are no shallow earthquakes originating directly under the Virgin Islands.

Not only was the earthquake not recorded at the seismographic station in Cayey (Tr. 2.72-2.75), but both Dr. Donnelly and Dr. Tomblin stated that there was no physical evidence of earthquake along a fault line and buildings near Haypicce Hill.

The scientific evidence in this case showed: that the earth tremors were not recorded by a seismograph 90 miles away; that there was no physical evidence of movement along a fault line near the base of Haypiece Hill; that there was no evidence of damage to any man-made structures in the area; that there was unusually heavy rainfall; and that rockslides on St. Thomas (including rockslides on the defendants' premises in October and November 1974) are caused by heavy rainfall and water saturation of the ground.

The testimony of four lay witnesses (Frank Packard, Pedro Lopez, Walter Chinnery, and Inez Lopez) that they felt an earth tremor is questionable and du-

bious. So is the testimony of Dr. Murphy that it was reasonably probable (reasonable probability having been defined as 1000 to 1) that the rockslide was caused by earthquake. Such testimony has no probative value and must yield to evidence based on scientific data, the physical facts, and the laws of nature. *Colna* v. *Northern Metal Co.*, 242 F. 2d 546 (3rd Cir. 1957); *Zollman* v. *Symington Wayne Corporation*, 438 F. 2d 28 (7th Cir. 1971); and *McDonald* v. *Ford Motor Company*, 42 Ohio St. 2d 8, 326 N.E. 2d 252 (1975).

We do not mean to imply that the present case turns on any mechanical rule, but submit that the "physical facts rule" is simply a short-hand method of referring to appellate review of a witness' testimony in light of the physical evidence to the contrary. We submit that the "physical facts rule" is supportive of Judge Young's analysis of the evidence and should have been applied by the Third Circuit Court of Appeals in reviewing the evidence.

In *O'Connor* v. *Pennsylvania Railway Company*, 308 F. 2d 911 (2nd Cir. 1962), the Court of Appeals for the Second Circuit held that the plaintiff's testimony about snowfall cannot be believed where it is contrary to the records of the Weather Bureau. Similarly, in the present case, the testimony of the four lay witnesses and Dr. Murphy is rendered absurd and insubstantial, when measured against the evidence as to the laws of nature pertaining to earthquakes and the physical facts testified to by the plaintiff's experts, Dr. Tomblin and Dr. Donnelly. Thus, it is clear that the testimony of the four lay witnesses and Dr. Murphy amounts to only a scintilla of evidence and did not preclude the granting of plaintiff's motion.

VII.

The Evidence Demanded a Finding That the Damage to the Chinnery/Videfreeze Buildings Was Not a "Direct Loss by Earthquake."

All three of the expert witnesses called by the plaintiff testified that the rockslide of December 8, 1974 was caused by unusually heavy fainfall and water saturation of Haypiece Hill (Mr. Wells' testimony, Tr. 2.35-2.38; Dr. Donnelly's testimony, Tr. 2.118-2.123, 2.125-2.128, 5.153-5.157; and Dr. Tomblin's testimony, Tr. 3.33). In this connection, Mr. Wells testified that more rain fell during the months of October and November 1974 than during the entire preceding nine months of 1974 or during the entire twelve month periods in either 1972 or 1973 (Tr. 2.14-2.20, 2.49-2.50, 2.57-2.58). See also, Mr. Wells' rainfall records and graphs (P-32, P-38) and graph of rainfall made from U. S. Weather Service Records (P-31). Mr. Wells characterized this unusually heavy rainfall as the most peculiar he had seen during twenty-eight years in the Virgin Islands.

A seismogram (P-10) from the U. S. Government's seismographic station in Cayey, Puerto Rico, 90 miles from St. Thomas, showed no indication of earthquake between 12:01 a.m. and 8:00 a.m. on December 8, 1974 (Tr. 2.72-2.75). The official in charge of the Cayey station, Moises Vazques, identified a log book of radiograms used to report earthquakes (P-43) (Tr. 2.78-2.79, 2.83) and a list of reported earthquakes in the Puerto Rico and Virgin Islands region from 1777 to 1975 (P-44) (Tr. 2.83-2.89). Neither record, P-43 or P-44, showed an earthquake in this region during December 1974. Moreover, counsel for the defendants later stipulated that the records of the United States

Government did not contain any record of an earthquake in the Virgin Island region on December 8, 1974 (Tr. 3.85).

Dr. T. W. Donnelly, a renowned authority on the geology of St. Thomas, stated that, based upon evidence as to the rainfall from September through November 1974, his studies of the geology of Haypiece Hill, the lack of any seismographic evidence, and the lack of any physical evidence of earthquake along a nearby fault and buildings, he was of the opinion that the rockslide of December 8, 1974 was caused by water saturation and not by earthquake (Tr. 2.118-2.123, 2.125-2.128, 5.153-5.157, 5.160).

Dr. John F. Tomblin, an eminent Caribbean seismologist, stated that, based upon textbooks and his own experience in the Caribbean, the rainfall records, the lack of any seismographic evidence of earthquake, his examination of the quarry site and cliff at Haypiece Hill, his examination of buildings and a nearby fault, and the composite photographs of the rockslide (P-39 and P-40), he was of the opinion that the rockslide of December 8, 1974 was due to unusually heavy rainfall and water saturation of Haypiece Hill (Tr. 3.33). He stated that there was absolutely no evidence that the rockslide was caused by earthquake (Tr. 3.34).

None of the owners of the Chinnery and Videfreeze (Mr. Shulterbrandt, Mr. Spiller, and Mr. Demetree) felt on earthquake on the night of December 8, 1974 (Tr. 3.113, 3.115, 3.121, 3.140, 5.171-5.183). Moreover, they admitted that there had been earlier rockslides from Haypiece Hill, one in October 1974 and another on November 12, 1974, and did not claim that these were caused by earthquake (P-20, Tr. 3.119-3.120, 3.131, 3.96-3.99, 5.174, 5.180).

Justus Villa, a civil engineer, was hired by Chinnery Development Corporation to investigate the cause of the December 8, 1974 rockslide. At the time he was retained, Mr. Shulterbrandt, president of Chinnery, told Villa that he "hoped that it had been caused by an earthquake" (Tr. 4.158).

Mr. Villa admitted that rockslides usually occur on St. Thomas because of rain (Tr. 4.194) and he was of the opinion that the amount of rainfall prior to December 8, 1974 could have caused two or three truckloads of rock to slide off the hill, but not the whole face of the cliff (Tr. 4.171-4.173). However, on cross-examination, Mr. Villa could not defend this opinion and came completely unglued, admitting: that he had examined Haypiece Hill during a dry season in 1975, that he could not describe the cliff, that he didn't know anything about the permeation of water into the rock crevices, that he did not know whether the sedimentation in the crevices was due to water passing through, and that he had no opinion as to the amount of rock that fell (Tr. 4.186-4.192).

Four lay witnesses (Frank Packard, Walter Chinnery, Ina Chinnery, and Pedro Lopez) testified that they felt an earth tremor. However, on cross-examination, Mr. Packard admitted he had previously given a signed statement (P-47) that made no mention of earth tremor and which attributed the rockslide to heavy rainfall (P-47, Tr. 3.171-3.174). Also, incredibly, he claimed that he had not mentioned the earth tremor to Mr. Shulterbrandt, Mr. Demetree, Mr. Spiller, or their attorneys, or anyone else other than his wife, until Saturday, September 20, 1975 (more than ten months later and just two days before the commencement of the trial *sub judice*) (Tr. 3.170-3.171).

Pedro Lopez recalled feeling an earth tremor, but was vague as to the date and time when it occurred (Tr. 4.15-4.28). Walter Chinnery, the nephew of David Chinnery (the close friend and business associate of Mr. Shulterbrandt), said he felt a light tremor on December 8, 1974 (Tr. 4.37-4.40) and his wife, Ina, made a similar statement. If these witnesses felt an earth tremor, it was probably due to the shock of 1000 cubic yards of rock hitting the ground, which Dr. Donnelly stated would release energy equivalent to 2.8 on the Richter scale (Tr. 5.150-5.152).

Assuming *arguendo* that one or more of the four witnesses felt on earth tremor, there was no proof that this had anything to do with the rockslide that damaged the Chinnery/Videfreeze buildings in the early morning hours of December 8, 1974. The 1000 to 1 theory of Dr. Murphy, based on the testimony of these witnesses, that it was reasonably probable that an earthquake had caused the rockslide, is too speculative to have any probative value and cannot be said to have established any causative link between any alleged "earth tremors" and the rockslide.

VIII.

The Testimony of the Lay Witnesses and Dr. Murphy Was Insufficient To Show That an Earthquake Occurred on December 8, 1974 and That the Damage to the Chinnery/Videfreeze Buildings and Property Was "Direct Loss by Earthquake."

The testimony of the four lay witnesses regarding earth tremors is vague, contradictory, and inherently incredible. However, if one of these witnesses did feel an earth tremor, we submit that it was due to the shock of 1000 cubic yards of rock hitting the ground, which

Dr. Donnelly stated would release energy equivalent to 2.8 on the Richter Scale (Tr. 5.150-5.152). This energy level would exceed the amount of energy released by an earthquake of a 2 to 2.5 Richter magnitude alleged by the Respondents. Moreover, since the energy would be released on the surface of the earth, the energy would dissipate more rapidly and earth tremors would be felt locally, but would not be recorded by the Cayey, Puerto Rico seismographic station, 90 miles away.

An interesting parallel is noted in *The Oxford English Dictionary,* Volume VI, 1970, at page 54. There reference is made to an early nineteenth century book on geology, *Lyell, Principles of Geology* (1830), wherein it was recorded that there was an immense landslide from the cliffs of Dover, by which the residents of the town were "shaken as if by an earthquake."

Moreover, assuming *arguendo* that one or more of the four witnesses felt an earth tremor, there was no proof that this had anything to do with the rockslide that damaged the Chinnery/Videfreeze building in the early morning hours of December 8, 1974. The 1000 to 1 theory of Dr. Murphy, that based upon the testimony of four witnesses concerning earth tremors, he was of the opinion that an earthquake of a 2 to 2.5 Richter magnitude caused the rockslide of December 8, 1974 (Tr. 27-28, 5.121, 5.124, 5.128), is too speculative to have any probative value and cannot be said to have established any causative link between any alleged "earth tremors" and the rockslide. *Galloway* v. *United States,* 319 U.S. 372, 63 S. Ct. 1077, 87 L.Ed. 1458 (1943).

IX.

The Court of Appeals Misconstrued the Testimony of Dr. Murphy and Erred in Not Holding That the Same Was Too Speculative To Have Any Probative Value.

In its opinion, the Court of Appeals completely misconstrued the testimony of Dr. Murphy. While the Court said Dr. Murphy's testimony amounted to more than a "scintilla" of evidence, we submit that the probative value of this witness's testimony was so slight that it should not have been submitted to the jury. *Eastern Air Lines, Inc.* v. *McDonnell Douglas Corporation*, 532 F.2d 957, 999 (5th Cir. 1976) and *Galloway* v. *United States*, 319 U.S. 372, 63 S.Ct 1077, 87 L.Ed 1458 (1943).

Dr. Murphy said, assuming an earthquake intensity as described by the four lay witnesses, he was of the opinion that it was reasonably probable that an earthquake caused the rockslide on December 8, 1974 (Tr. 27-5.28, 5.182). He later testified that he would define a probability as "one in a thousand or so" (Tr. 5.128).

It is interesting to note that Dr. Murphy seized upon earthquake of a 2 to 2.5 Richter magnitude as the purported cause of the rockslide. We submit that this was done because Dr. Murphy had calculated this was the largest earthquake that could have been felt on St. Thomas and not recorded by the seismographic station at Cayey, Puerto Rico, 90 miles away (Tr. 5.17, 5.24-5.26, 5.74-5.75).

As pointed out during the cross-examination of Dr. Murphy, a 2 to 2.5 Richter magnitude corresponds to a Mercalli intensity of II to III, and according to Richter, *Elementary Seismology*, pages 137 and 353 (See Table III and IV at pages 48a-51a of the Appendix

to Petition), "small slides and caving in along sand and gravel banks" occur at Mercalli intensity VII which corresponds to Richter magnitude 5, and "large slides" occur at Mercalli intensity X which corresponds to Richter magnitude 7 (Tr. 5.77-5.78, 5.89-5.91, 5.123-5.124). During this cross-examination of Dr. Murphy, it was also pointed out that, under the logarithmic Richter Scale testified to by Dr. Murphy (Tr. 5.17, 5.121-5.122), the Richter magnitude 5, Mercalli intensity VII earthquake that was described as causing "small slides and caving in along sand and gravel banks", had an energy level 10,000 time higher than the Richter magnitude 2 to 2.5, Mercalli intensity II to III that Murphy claimed could have caused the December 8, 1974 rockslide (Tr. 5.27-5.28, 5.121, 5.124, 5.128).

Dr. Murphy further testified that normally landslides occur at Modified Mercalli intensity VII which would correspond to Richter magnitude 5 (Tr. 5.23, 5.120-5.121); that, under highly unusual conditions at a particular spot, it might be possible to have a landslide at Mercalli intensity VI, which also corresponds to Richter magnitude 5 (5.22-5.23, 5.124); or in an extremely rare case, at Mercalli intensity V, which corresponds to Richter magnitude 4 (Tr. 5.23-5.121, 5.125). Such testimony squarely contradicts and further destroys the credibility of Dr. Murphy's 1000 to 1 theory that the December 8, 1974 rockslide was caused by an earthquake of a 2 to 2.5 Richter magnitude, which corresponds to a Mercalli intensity of II to III (Tr. 5.27-5.28, 5.121, 5.124, 5.128).

In evaluating said testimony, Judge Young states, at 68 F.R.D. pages 493-495:

> "But then there is the testimony of defendants' own expert, Dr. Murphy, who offered the opinion that the landslide was caused by an earthquake. On cross-examination Dr. Murphy suggested that the reasonable probability of the rockslide being caused by an earthquake was 1000 to 1. When the plaintiff is given the burden of proving that something did not occur and presents overwhelming evidence that it did not occur, and the defendants' expert witness suggests that there is only one chance in a thousand that it did occur, can a jury reasonably find that the plaintiff has not met its burden of tipping the scales ever so slightly in its favor? With all due respect to the jury system, at the point I would be neglecting my responsibility as a federal trial judge to permit the verdict to stand."

Judge Young was present during Dr. Murphy's testimony and was able to observe his demeanor and bearing in addition to hearing his oral testimony. Petitioner submits that Judge Young, in applying his traditional discretionary powers, correctly evaluated Dr. Murphy's testimony of a thousand to one probability as being too speculative to have any probative value. This finding is in contrast to the opinion of August 25, 1976, wherein the Court of Appeals reaches an entirely different conclusion based upon mere words appearing in the transcript.

In concluding the trial court made an "unfair reading of Dr. Murphy's testimony" the opinion of the Court of Appeals invaded the discretionary powers of the trial judge to make findings as to the overall effect of a material witness' testimony when such findings are based upon all elements of probative testimony—actions, demeanor and the spoken word. Thus,

the Court of Appeals cannot reach an evidentiary conclusion contrary to the findings of the trial judge where the elements of observed demeanor and actions have any bearing upon a reasonable interpretation to be given to any material witness' testimony.

X.

The Trial Judge Was Correct in Granting Plaintiff's Motion for Judgment N.O.V. Since There Was Only One Conclusion That Reasonable Men Could Have Reached From the Evidence.

As pointed out by Judge Young in his Order of October 15, 1975 (Appendix to Petition, 1a-2a), the evidence in this case demanded a verdict for the plaintiff. This evidence is set out in detail at pages 8-33 herein, and has been summarized at pages 51-54 herein.

As stated by Judge Young, the standard to be applied in passing on a motion for judgment notwithstanding the verdict, is the "reasonable man" test. (Appendix to Petition pp. 13a-14a). After summarizing the evidence and legal principles involved, Judge Young stated:

> "Having carefully considered the evidence and being mindful of the limited role of a trial judge when reviewing a jury verdict on a motion for j.n.o.v., it is my firm conviction that *reasonable minds could properly* have reached only one conclusion in this case, that the defendants did not suffer 'direct loss by earthquake', and that judgment should be entered for the plaintiff notwithstanding the verdict. [Emphasis supplied] (Appendix to Petition, 13a-14a).

Further on in his opinion, Judge Young stated:

"The plaintiff accepted and met its burden overwhelmingly. But even without weighing the evidence, without judging the credibility of the witnesses or substituting my judgment of the facts for the jury's and viewing the evidence in the light most favorable to the defendants and taking all reasonable inferences therefrom, I cannot conclude that the jury could reasonably have found that the plaintiff failed to meet its burden of proving by the preponderance of the evidence that the defendants did not suffer 'direct loss by earthquake.' I am mindful that a judgment notwithstanding the verdict should only be entered when a judge is firmly convinced that a grave error has been made and a serious injustice will result. This, in my opinion, is such a case."

(Appendix to Petition p. 18a-19a)

It is respectfully submitted that the trial judge correctly decided that a reasonable man could come to only one conclusion. Therefore, the Court's order and judgment of October 15, 1975, granting plaintiff's motion for judgment notwithstanding the verdict, should be reinstated.

XI.

CONCLUSION

WHEREFORE, Fireman's Fund Insurance Company, Petitioner herein, respectfully requests this Court to: (1) review and consider the August 25, 1976 opinion and judgment of the United States Court of Appeals for the Third Circuit and the October 15, 1975 order and judgment of U.S. District Court Judge Warren H. Young, with regard to the questions presented for review; (2) grant a stay of the issuance of the mandate pending the application for a writ of certiorari; (3)

grant a writ of certiorari to review and reverse the erroneous opinion and judgment of the Court of Appeals rendered on August 25, 1976; and (4) grant Petitioner such other relief as this Court deems proper.

For the reasons set forth above, it is respectfully submitted that this petition for a writ of certiorari should be granted.

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APPENDIX

[A] Memorandum Opinion and Order of District Judge Warren H. Young Dated and Entered October 15, 1975

IN THE DISTRICT COURT OF THE VIRGIN ISLANDS
DIVISION OF ST. THOMAS AND ST. JOHN

CIVIL No. 1975/427

FIREMAN'S FUND INSURANCE COMPANY, *Plaintiff*

vs.

VIDEFREEZE CORPORATION and DAVID E. CHINNERY DEVELOPMENT CORPORATION, *Defendants*

MEMORANDUM OPINION AND ORDER

(Filed October 15, 1975)

YOUNG, *District Judge*

The plaintiff, Fireman's Fund Insurance Company (hereinafter "Fireman's Fund" or "insurer") brought suit for a declaratory judgment to determine the rights and liabilities of the parties under certain contracts of insurance entered into between itself and the defendant insureds, Videfreeze Corporation (hereinafter "Videfreeze" or "insured(s)") and the David E. Chinnery Development Corporation (hereinafter "Chinnery" or "insured(s)"). A six day trial was held in St. Thomas and a jury returned a verdict for the defendants, finding that they, the insureds, did suffer a "direct loss by earthquake" within the contract terms.

Fireman's Fund now comes before this Court bringing a motion for a judgment notwithstanding the verdict (j.n.o.v.) pursuant to Rule 50(b) of the Federal Rules of Civil Procedure or, in the alternative, for a new trial pursuant to Fed.R.Civ.P. 59. A hearing was held on these

motions on October 1, 1975, at which time arguments of counsel were heard.

I

Background Facts

Defendant Videfreeze, a distributor of frozen foods to hotels and restaurants, leased a building owned by defendant Chinnery for use as a warehouse in its business operations. The building is located in the Sub Base area of St. Thomas, formerly the site of quarrying operations, at the foot of Haypiece Hill.

On June 8, 1972, plaintiff issued a fire insurance policy affording business interruption coverage to defendant Videfreeze and another policy covering merchandise such as frozen foods and meat and other contents for a term of three years. On January 10, 1974, plaintiff issued its standard fire insurance policy to defendant Chinnery for coverage on the building being leased by Videfreeze, also for a term of three years. On April 23, 1974, defendant Chinnery took out a one year fire insurance policy written by Fireman's Fund to cover rental loss on the building. All of these policies contained an "Earthquake Insurance Assumption Endorsement" to provide coverage for "direct loss by earthquake".

The defendants sustained losses as a result of a rockslide which occurred at the building at Haypiece Hill sometime during the early morning hours of December 8, 1974. On April 7, 1974 Videfreeze filed Proofs of Loss under the policies claiming substantial losses which it attributed to an earthquake. Chinnery, though it did not file a formal proof of loss, submitted to plaintiff a cost estimate of repairs to the building, and in sworn statements its officers stated their belief that the losses were due to an earthquake.

The plaintiff made an investigation of the rockslide and determined that the defendants' losses were not "direct

losses by earthquake" within the policy coverage. Furthermore, in its complaint Fireman's Fund expressed the opinion that the rockslide was caused by excessive rainfall during the latter months of 1974.

Fireman's Fund, feeling that this would be the most expedient means of disposing of these claims, brought this declaratory action seeking a determination by this Court as to whether or not the losses sustained by the insureds resulted directly from an earthquake. The defendants' responded by asserting several counterclaims which alleged coverage of the losses under the "Earthquake Insurance Assumption Endorsement".

A bifurcated trial was held in St. Thomas beginning on September 22, 1975, during the first phase of which liability alone was to be determined. A lengthy trial ensued at the close of which plaintiff's motion for a directed verdict was denied.

The jury was instructed that the insurer, plaintiff Fireman's Fund, had the burden of proving by the preponderance of the evidence that the insureds did not suffer "direct loss by earthquake". The jury was further instructed that the earthquake must have been a direct and immediate cause of the loss as opposed to a remote or incidental cause. The jury returned a verdict for the defendants finding that they had suffered direct losses by earthquake. Immediately after the jury was discharged, plaintiff moved for judgment notwithstanding the verdict or, in the alternative, for a new trial.

II

The Evidence

I shall begin my opinion by reviewing the rather involved testimony in some detail. This is not to say that all of the evidence can or will be considered in ruling on the plaintiff's motion for j.n.o.v., but I believe it is helpful to

set out the evidence in its entirety for purposes of clarification.

The plaintiff's case consisted of the testimony of four witnesses and various exhibits which were introduced into evidence. The plaintiff's first witness, Nat Wells, while having no special training in geology or seismology (the study of earthquakes), is a civil engineer and architect with nearly forty years of practical experience on St. Thomas as an Assistant Commissioner of Public Works and now in his own engineering practice. Most of Wells' testimony related to detailed rainfall records which he has kept from 1958 until the present time.

It was clear from Wells' testimony that an extraordinary amount of rain fell during the months of October and November of 1974. The total rainfall for the year was 62 inches with 32 inches falling during those two months alone. Wells, based on his personal knowledge of the Sub Base area and Haypiece Hill, expressed the opinion that the rockslide was caused by water saturation.

On cross-examination it was pointed out that less than one inch of rain fell between November 28 and December 8. The defendants attempted to dispute the theory that the slide was caused by water saturation by suggesting that the rocks would have fallen prior to December 8 which was ten days after the end of the heavy rainfall. Wells' testimony with respect to an experiment which he performed outside the courtroom offers a possible explanation. Using rocks taken from the site, Wells tested their water absorption. He concluded that the rock would absorb 10 per cent of its volume of water, after which instead of being relatively solid, it became more fragile. Thus, one could conclude that between November 27 and December 8 the rock at Haypiece Hill was absorbing water and reaching its saturation point, at which point it was in a fragile state.

The second witness for the plaintiff was a Mr. Vasquez who has been an observer of the seismograph at the Cayey Observatory in Cayey, Puerto Rico for the past 29 years. A seismograph is an instrument which writes a permanent continuous record of earth motion, a seismogram. Richter, *Elementary Seismology* 210 (1958) (hereinafter "*Richter*"). The observatory at Cayey is part of a worldwide seismographic network.

The intensity of an earthquake refers to the degree of shaking at a specified place. *Richter* at 17. The Modified Mercalli Scale (*Richter* at 137-38) which was admitted into evidence is a listing of perceptions of the intensity of earthquakes based on nearly 120 years of talking to thousands of people. The scale consists of descriptions of the effects which occur at various levels of intensity.

Magnitude is a rating given to the size of an earthquake independent of the place of observation. *Richter* at 17. The magnitude scale is popularly referred to as the Richter scale. The seismograph at Cayey can pick up earthquakes of sufficient size throughout the world. Vasquez testified that the device at Cayey would record an earthquake in Japan of a magnitude of 5.5.

Cayey, Puerto Rico is about 85 to 90 miles from St. Thomas. The seismograph was in good operating condition on December 7 and 8 of 1974. Vasquez testified that there is no seismographic record of an earthquake occurring on December 8, 1974.

Plaintiff's next witness, Dr. Thomas Donnelly, is an eminently qualified Professor of Geology at the State University of New York. He wrote a dissertation on the geology of St. Thomas and St. John in 1956 which was defended and published in 1966. Dr. Donnelly performed geophysical studies in St. Thomas during the 1960's and became quite familiar with the area around Haypiece Hill.

Dr. Donnelly mentioned three contributing factors in reaching his firm conclusion that the rockslide was caused by water. That the quarrying operations had left the hill unsafe was an important factor in causing the landslide, Donnelly said. The structure of the rocks, which consisted of a bundle of rock strata facing down hill, makes it much more likely that a slide will occur. Finally, the witness testified that the addition of water makes the rock slippery and gives added buoyancy which lowers the friction and increases the likelihood the rocks will slide down and collapse.

Dr. Donnelly appeared equally certain that the rockslide was not caused by an earthquake. He testified that an earthquake of intensity VII[1] on the Modified Mercalli Scale is necessary to start a landslide. On cross-examination he said that an earthquake of intensity III in St. Thomas would be recorded on the seismograph at Cayey, Puerto Rico. Also on cross-examination the defendants elicited from Dr. Donnelly the Modified Mercalli Scale description of earthquakes of intensities I and II. An earthquake of intensity I is "not felt" and an earthquake of intensity II is "felt by persons at rest, on upper floors, or favorably placed".

The plaintiff's final witness, Dr. John Tomblin, shared Dr. Donnelly's expert credentials in the fields of geology and seismology. Dr. Tomblin is presently the head of seismic research at the University of the West Indies in Trinidad. The witness examined Plaintiff's Exhibit No. 10, the seismogram from Cayey for December 8, 1974, saying that no earthquake was recorded between the hours of midnight and 8 a.m. Dr. Tomblin stated, as did Dr. Donnelly, that an earthquake of a Mercalli intensity of VII

[1] The level of intensity on the Modified Mercalli Scale is usually designated by use of Roman numerals. I will follow this practice as an aid in distinguishing intensity from the magnitudes on the Richter scale.

would have had to occur in St. Thomas to cause the rockslide.

Dr. Tomblin testified that from his own personal observations of 11 years in the Caribbean, only once, on October 8, 1974 in Antigua, had an earthquake triggered a landslide. That was the largest earthquake in the area for many years, of intensity VIII, and the landslide which it caused was very small, consisting of 8 to 10 truck loads of debris. The intensity of an earthquake decreases as you move away from the epicenter of the quake since the level of intensity is based on the perceptions of persons at the place of observation. As such, the Antigua earthquake was intensity IV in Tortola and III or IV in Puerto Rico. When asked if Haypiece Hill was ready to slide due to the rains, would the Antigua earthquake have been sufficient to trigger the landslide, Dr. Tomblin replied in the negative, saying that only an earthquake of an intensity of VII or greater in St. Thomas would be sufficient.

Dr. Tomblin indicated that he would not expect an earthquake close to the surface of the ground in St. Thomas. Almost all earthquakes in the area originate out in the sea bed 50 to 100 miles away in which case any earthquake would have shown up in Cayey. He testified further that if there had been a diminutive earthquake in St. Thomas, it could not have been the cause of the rockslide. With respect to the fault at the Sub Base area, Dr. Tomblin's opinion was that it had nothing to do with the rockslide since there had been no activity of that fault for probably thousands of years.

Dr. Tomblin's final conclusion is worth quoting even if it can be done only as accurately as it is reflected in my bench notes. He said, or words very close to this effect, "There is no question in my mind that the cause of the rockslide was the continued heavy rain prior to the slide". The plaintiff then sought to have various exhibits admit-

ted into evidence (which shall not be listed here but referred to where otherwise relevant) and then rested its case.

The defendants began their case by calling to the stand—Warren Spiller, the Secretary of Videfreeze and General Manager of their St. Thomas branch. His testimony is not particularly significant for purposes of these motions, except that he did remember a prior rockslide incident which occurred in the latter part of October in 1974 during a rainstorm.

Next to testify was Louis Shulterbrandt the President and Treasurer of defendant Chinnery. Mr. Shulterbrandt also recounted the October, 1974 rockslide and the minor damage which was done to the building. The witness explained the shareholding structure of the David E. Chinnery Development Corporation. There are two major shareholders, himself and William Demetree, and two minor shareholders, David Chinnery and Everette Birch. David Chinnery and Birch had given 501 shares of stock to Shulterbrandt and kept only five shares apiece. The witness also explained the lease agreement between Chinnery and Videfreeze.

The third witness called by the defendants was Frank Packard who lives in a house on the north side of the island a few miles from the site of the rockslide. Packard testified that in the early morning hours of December 8, 1974, possibly at midnight or 1:00 a.m., he felt an earth tremor and remarked to his wife, "Here goes the train again". Packard said that he thought nothing of it at the time but when he saw the damage to the defendants' building that Sunday morning, he "knew what caused it". Packard did not mention to Mr. Shulterbrandt that day that he felt an earthquake the night before. Packard explained that he had not told anyone about experiencing an earthquake until the Saturday before the trial "because no one asked me".

On cross-examination Packard repeated the statement that he had never discussed the cause of the rockslide with anyone. He was then shown a statement bearing his signature and dated May 21, 1975 which he had given to a representative of Fireman's Fund (Plaintiff's Exhibit No. 47) in which he said, "I do not know what caused the rockslide but there were heavy rains that might have aggravated the already bad cliff".

The defendants' next witness was Pedro Lopez who lives in a house at the opposite side of the harbor from the rockslide site, at a distance apart of over five miles. The Lopez house has 18 inch thick walls and a reinforced concrete foundation set on rock. Lopez testified that on one occasion (he had no specific recollection of the date) he remembers being awakened by shaking and seeing his house move with reference to the trees outside. He stated that for one minute or more he heard things rattling around in the house, including dishes and glasses, and doors and windows. The cross-examination of Mr. Lopez stressed the fact that he was uncertain as to when he had this experience.

Walter Chinnery, a nephew of David Chinnery, was next to testify for the defendants. Walter Chinnery is the owner of three restaurants and has done business with Videfreeze for ten years. The witness indicated that he was unaware that his uncle, David Chinnery, owned any shares in the defendant Chinnery. Walter Chinnery testified that between 1:00 and 1:30 a.m. on December 8, 1974, while reading, he felt his house shake, the tremor lasting for a duration of one minute. His wife, Inez Chinnery, then took the stand and confirmed her husband's testimony with respect to the tremor. On cross-examination Mrs. Chinnery indicated that the only effect she observed was the shaking of the bed.

The defendants next attempted to qualify two witnesses, Walter Yaude and Wellington Bertolett, as experts for

purposes of expressing an opinion with respect to the cause of the rockslide based upon an investigation and report which they had done. The Court ruled that neither man qualified as an expert in geology or seismology, so neither was permitted to testify.

Justus Villa, a civil engineer who came to the Virgin Islands in 1947, was called to testify and then qualified as an expert. Mr. Villa expressed the opinion that the rockslide was not caused by water saturation. His reasoning was that a slide caused by water saturation would occur little by little, rock by rock, and not in a large quantity all at one time.

The final witness for the defendants' case in chief was Dr. Joseph Murphy, a highly qualified seismologist who is now a private consultant and research scientist. Dr. Murphy had never studied land or rockslides with reference to earthquakes, however, this being the first and only time. On direct examination Dr. Murphy explained that an earthquake of magnitude 2 or 2.5 could occur in St. Thomas without being recorded on the Cayey seismograph.

Dr. Murphy also explained the correlation between magnitude and intensity and the relationship between the various levels of magnitudes. He demonstrated by an involved mathematical process that a Richter magnitude 2 corresponds roughly to a Mercalli intensity level II. Dr. Murphy then expressed his opinion that an earthquake caused the rock cliff already weakened by water saturation to slide.

The cross-examination of Dr. Murphy is particularly important. Counsel for plaintiff attempted to have Dr. Murphy indicate with what certainty he could say that the rockslide was caused by an earthquake. Dr. Murphy replied that his opinion of how the rockslide occurred "could be called a probability". When asked what did he consider

a probability, Dr. Murphy responded "one in a thousand or so".

All of the defendants' exhibits were admitted. Then the defendants rested their case. Rebuttal and sur rebuttal evidence followed which I need not discuss.

III

Judgment Notwithstanding the Verdict

A.

The jury of three men and three women returned its verdict, finding plaintiff liable to the defendants. After the jury was discharged, plaintiff moved orally for judgment notwithstanding the verdict pursuant to Rule 50(b) Fed.R.Civ.P. This motion along with the alternative motion for a new trial was later reduced to a written motion and filed within the next few days. The standard for deciding a motion for j.n.o.v. is identical to the standard applied in determining a motion for a directed verdict. Neville Chemical Company v. Union Carbide Corporation, 422 F.2d 1205 (3rd Cir. 1970). Although I denied the motion for a directed verdict*, the identity of the standards of the two motions does not preclude the granting of a motion for j.n.o.v. after denial of a motion for a directed verdict. *See, e.g.*, Seven Provinces Insurance Company, Ltd., v. Commerce & Industry Insurance Company, 65 F.R.D. 674 (W.D. Mo. 1975).

Motions for judgment notwithstanding the verdict must be sparingly and cautiously granted. Jeanes v. Milner, 428 F.2d 598 (8th Cir. 1970). Full respect must be given to the jury's findings and the judge must be careful not to usurp the prime function of the jury as triers of facts. Lind v. Schenley Industries, Inc., 278 F.2d 76 (3d Cir.

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* The denial was made without a studied application of the standards.

1960). As such, the test for a j.n.o.v. motion is a strict one. As stated by the Second Circuit in Simblest v. Maynard 427 F.2d 1, 4 (2d Cir. 1970), it is:

> Simply stated it is whether the evidence is such that, without weighing the credibility of the witnesses or otherwise considering the weight of the evidence, there can be but one conclusion as to the verdict that reasonable men could have reached.

In determining whether the evidence is sufficient the Court is not free to weigh the evidence, or pass on the credibility of witnesses, or to substitute its judgment of the facts for that of the jury. 9 Wright and Miller, Federal Practice and Procedure § 2524 (1971). Moreover, it is well settled that the party against whom a j.n.o.v. motion is made must be given the benefit of every legitimate inference that can be drawn from the evidence. Denneny v. Siegel, 407 F.2d 433 (3d Cir. 1969). The courts are split on whether a court in ruling on a motion for j.n.o.v. should consider only evidence favorable to the party against whom the motion is made or whether it should consider all of the evidence. The better rule is probably that the court should primarily consider all of the evidence favorable to the position of the party opposing the motion, but it should also consider unfavorable evidence that is uncontradicted and unimpeached. *See* 9 Wright and Miller, Federal Practice and Procedure § 2529 (1971).

The existence of an appropriately high standard for ruling on a motion for j.n.o.v. doesn ot mean that such motions should never be granted. "[A] federal trial judge has a heavy responsibility beyond that of being a mere referee at a judicial proceeding." Byce v. American Honda Motor Company, Inc., 59 F.R.D. 63 (W.D. Pa. 1971) [citing, *inter alia,* Russell v. Monongahela Railway Company, 262 F.2d 349, 353 (3d Cir. 1958)]. While recognizing that a

court's position vis-a-vis the jury should be one of minimum interference, one commentator has written:

> Traditional respect for the jury and its constitution benison requires that it be allowed to find whatever facts are reasonably suggested by the evidence. The impossibility of defining reasonableness requires that the scope of freedom be left large. But at some point the possibility that twelve jurors may find the facts 'unreasonably', and the much greater probability that twelve jurors can misunderstand or happily ignore the law permits and requires judicial control.[2]

So the question is not whether there is no evidence supporting the party against whom the motion is made, but whether there is evidence upon which the jury could properly find a verdict for that party. Reitan v. Travelers Indemnity Company, 267 F.2d 66 (7th Cir. 1959). A mere scintilla of evidence is not sufficient to sustain a jury verdict. There must be such evidence as reasonable minds would accept as adequate in support of the conclusions. Seven Provinces Insurance Company Ltd. v. Commerce & Industry Insurance Company, 65 F.R.D. 674 (W.D. Mo. 1975). A jury's verdict should not stand if it is based on totally unreasonable inferences. In Wratchford v. S. J. Groves & Sons Company, 405 F.2d 1061, 1066 (4th Cir. 1969), Chief Judge Haynsworth wrote:

> It is true, of course, that somewhere lines must be drawn by a federal judge, for if the inference sought to be drawn lacks substantial probability, any attempted resolution of the question may well lie within the area of surmise and conjecture.

In Denneny v. Siegel, 407 F.2d 433 (3d Cir. 1969) the appellate court reviewed the trial judge's granting of a

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[2] Cooper, "Directions for Directed Verdicts: A Compass for Federal Courts", 55 Minn. L. Rev. 903, 921 (1971).

motion for a directed verdict in a medical malpractice case, agreeing that it could not reasonably be said that the onset of a post-operative infection was inextricably connected with the act of negligence. The court explained its function as being to examine the record in the light most favorable to the plaintiff and to consider all inferences reasonably capable of being drawn from the evidence. The Third Circuit wrote:

> We must determine whether, as a matter of law, the record is critically deficient of that minimum quantum of evidence from which a jury might reasonable afford relief. 407 F.2d at 439.

The jury may not be permitted to reach its verdict on the basis of speculation and conjecture. There must be sufficient facts for the jury to say reasonably that the preponderance favors liability.

B.

Having carefully considered the evidence and being mindful of the limited role of a trial judge when reviewing a jury verdict on a motion for j.n.o.v., it is my firm conviction that reasonable minds could properly have reached only one conclusion in this case, that the defendants did not suffer "direct loss by earthquake", and that judgment should be entered for the plaintiff notwithstanding the verdict.

For purposes of this motion the defendants' case consisted of four persons who said that they felt an earth tremor, an expert witness who expressed the opinion that the rockslide was not caused by water saturation, and another expert who at least suggested that the reasonable probability of the rockside being caused by an earthquake was a 1000 to 1. Frank Packard was the first witness to testify that he felt an earth tremor on December 8, 1974. In ruling on this motion this Court is not free to pass

on the credibility of the witnesses, but I cannot ignore the fact that Packard was as thoroughly discredited as a witness can be and the jury could not reasonably have based its verdict on his testimony.

The second person to have felt an earthquake was Pedro Lopez. He, however, had no recollection of when this experience occurred. Counsel for the plaintiff suggested that Mr. Lopez may have experienced the October 8, 1974 earthquake in Antigua. The only other persons to testify that they felt an earth tremor in the early morning hours of December 8, 1974 were Walter and Inez Chinnery.

While this Court is not free to engage in the weighing of evidence in ruling on a motion for j.n.o.v., it may look to uncontradicted and unimpeached evidence which is unfavorable to the party against whom the motion is made, as well as uncontroverted facts. There is no question that there is no seismographic record of an earthquake in the area on December 8, 1974. Dr. Murphy did testifby that an earthquake of magnitude 2 to 2.5 could have occurred in St. Thomas and yet not be recorded in Cayey. Consistent with this, Dr. Donnelly testified that an earthquake of intensity III (which roughly corresponds to an earthquake of magnitude 3) in St. Thomas would show up on the seismograph at Cayey. Beyond this there is the testimony of both Drs. Donnelly and Tomblin that it would take an earthquake of intensity VII (an approximate magnitude of 5) in St. Thomas to cause a landslide. Dr. Tomblin elaborated saying that a diminutive earthquake in St. Thomas could not have caused the rockslide. Tomblin also said that even if Haypiece Hill was ready to slide due to the rains the Antigua earthquake (a probable intensity of IV in St. Thomas) could not have caused the rockslide.

The defendants hardly presented substantial evidence in support of their position that an earthquake occurred at all in St. Thomas on December 8, 1974, especially in

view of the overwhelming evidence to the contrary. Yet looking at the defendants' evidence alone and taking it in the light most favorable to the defendants, as I must, it is conceivable that a jury could properly find from the testimony of the defendants' four lay witnesses adequate proof of the existence of an earthquake of some size.

But to take the next step, to say that the earthquake was the cause of the losses suffered by the defendants, one must resort to the purest speculation, conjecture and surmise. At that point it can no longer be said that the jury acted reasonably, so that judicial control is not only permitted, but required. Admittedly the plaintiff had the burden of proving that the insureds did not suffer a direct loss by earthquake. But at some point, after the plaintiff has established by far beyond the preponderance of the evidence that there was no "direct loss by earthquake", the defendants must make some showing that their losses were in fact caused by an earthquake.

Again, both Dr. Donnelly and Dr. Tomblin testified that an earthquake of intensity VII is necessary to trigger a landslide. An earthquake of that intensity would have been recorded on the seismograph at Cayey. An earthquake of an intensity as low as III would have been recorded at Cayey. Dr. Tomblin testified that a diminutive earthquake in St. Thomas could not have caused the rockslide. In fact from his personal observations of 11 years in the Caribbean, Dr. Tomblin stated that only the Antigua earthquake with an intensity of VIII triggered a landslide, and that, a very small one. Finally, there is Dr. Tomblin's testimony that even if Haypiece Hill was ready to slide due to the rains, an earthquake of the size which would not be recorded at Cayey could not have triggered the landslide.

Still I shall consider solely the defendants' evidence to determine whether the jury could have reasonably decided

that an earthquake was the cause of the insureds' losses. Basically you have the testimony of four lay witnesses all of whom felt an earthquake and then you have the fact of the rockslide and the damage. Frank Packard claimed that when he saw the damage Sunday morning, he "knew what caused it". This is an impermissible inference, an unsupported leap, which cannot be made. For the jury to rest its verdict on this inference is nothing but conjecture and speculation in view of the solid evidence than an earthquake of the size which would not be recorded at Cayey could not have caused the rockslide.

Beyond this, there is the timing element. No one was able to testify as to when between the hours of midnight and 8:00 on December 8, 1974 the landslide occurred. Taking, in the light most favorable to them, the testimony of defendants' four lay witnesses who experienced a tremor, it is possible to place the "tremor" between the hours from 1:00 a.m. and 3:00 a.m. This time includes the testimony of Pedro Lopez which I must consider for these purposes as having placed the tremor at or about 3:00 a.m. in the morning of December 8, even though he had no positive recollection of the date. The rockslide, however, could have taken place before the alleged tremor, during the tremor, or several hours later. The additional inference necessary to conclude that the rockslide occurred at or about the same time when these witnesses experienced tremors increases the speculative nature of the jury's verdict. A verdict based solely on conjecture and surmise should not be allowed to stand.

But then there is the testimony of the defendants' own expert, Dr. Murphy, who offered the opinion that the rockslide was caused by an earthquake. On cross-examination Dr. Murphy suggested that the reasonable probability of the rockslide being caused by an earthquake was 1000 to 1. When the plaintiff is given the burden of proving that something did not occur and presents overwhelming evidence that it did not occur, and the defendants' expert

witness suggests that there is only one chance in a thousand that it did occur, can a jury reasonably find that the plaintiff has not met is burden of tipping the scales ever so slightly in its favor? With all due respect to the jury system, at that point I would be neglecting my responsibility as a federal trial judge to permit the verdict to stand.

I have yet to consider the testimony of the defendants' witness Justus Villa who expressed the opinion that the rockslide was not caused by water saturation. Even accepting the opinion as fact for purposes of this motion, the plaintiff was not required to prove that the rockslide was caused by water saturation or by any other factor, only that an earthquake was not the cause of the defendants' losses. Admittedly the easiest way to establish that negative may be to prove the affirmative of something else, but Villa's testimony alone does not provide a reasonable basis upon which the jury could find in favor of the defendants.

This Court placed upon the plaintiff, for policy reasons which I stated in the record, the burden of proving that the defendants did not suffer "direct loss by earthquake". This action arose in an unusual posture, the insurance company suing for a declaratory judgment of non-liability, rather than the insureds bringing suit on the claim. The Court could justifiably have placed upon the defendants the burden of proving that they did suffer "direct loss by earthquake".

The plaintiff accepted and met its burden overwhelmingly. But even without weighing the evidence, without judging the credibility of the witnesses or substituting my judgment of the facts for the jury's, and viewing the evidence in the light most favorable to the defendants and taking all reasonable inferences therefrom, I cannot conclude that the jury could reasonably have found that the plaintiff failed to meet its burden of proving by the preponderance of the evidence that the defendants did not

suffer "direct loss by earthquake". I am mindful that a judgment notwithstanding the verdict should only be entered when a judge is firmly convinced that a grave error has been made and a serious injustice will result. This, in my opinion, is such a case.

Fireman's Fund has made, in the alternative, a motion for a new trial pursuant to Rule 59 of the Federal Rules of Civil Procedure. Rule 59 provides:

> A new trial may be granted to all or any of the parties and on all or part of the issues (1) in an action in which there has been a trial by jury, for any of the reasons for which new trials have heretofore been granted in actions at law in the courts of the United States . . .

When a motion for a new trial is joined with a motion for j.n.o.v., the court is required by Fed.R.Civ.P. 50(c) to rule conditionally on the motion for a new trial when it grants j.n.o.v. in case the judgment notwithstanding the verdict is vacated or reversed on appeal. The court must also specify the grounds for granting or denying the motion for the new trial.

A motion for a new trial and a motion for j.n.o.v. have wholly distinct functions and different standards govern a judge when ruling upon them. Seven Provinces Insurance Company, Ltd. v. Commerce & Industry Insurance Company, *supra*. A new trial should not be granted merely because the jury could have drawn different inferences or conclusions or because the judge feels that another result is more reasonable. Fireman's Fund Insurance Company v. Aulco Wrecking Company, 466 F.2d 179 (8th Cir. 1972), cert. denied, 410 U.S. 930 (1973). However, when a jury returns a verdict which is contrary to the clear weight of the evidence, a new trial may be granted. Zegan v. Central Railroad Company, 266 F.2d 101 (3d Cir. 1959).

On grounds that the verdict which the jury returns is contrary to the clear weight of the evidence, I rule that the plaintiff's motion for a new trial should be granted if the judgment entered by this Court is vacated or reversed on appeal. In ruling on the motion for a new trial, as opposed to the motion for j.n.o.v., this Court is permitted to weigh the evidence. Without reviewing all of the evidence another time, I shall simply state my firm belief that the jury's finding that the defendants suffered "direct loss by earthquake" is overwhelmingly contrary to the clear weight of the evidence. Should this judgment be vacated or reversed on appeal a serious injustice will result if a new trial is not granted.

ORDER

For the reasons stated in the foregoing Memorandum Opinion, it is hereby

ORDERED:

1. That Plaintiff Fireman's Fund's Motion for Judgment Notwithstanding the Verdict be and the same is hereby GRANTED, with directions to the Clerk of the Court to vacate the judgment entered for the Defendants upon the jury's verdict and to enter judgment for the Plaintiff.

2. That Plaintiff Fireman's Fund's Motion for a New Trial is conditionally GRANTED, said ruling not to affect the finality of the judgment entered above.

Dated at Christiansted, St. Croix, this 15th day of October, 1975.

ENTER:

/s/ WARREN H. YOUNG
Warren H. Young
Judge

ATTEST:
Leo Penha, Clerk of the Court
By: /s/ BLANCA M. RAPES
Deputy Clerk of the Court

[B] Opinion and Judgment of the United States Court of Appeals for the Third Circuit
Dated and Entered August 25, 1976

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

Nos. 75-2405/6

FIREMAN'S FUND INSURANCE CO., *Appellant in No. 75-2405*

vs.

VIDEFREEZE CORPORATION and DAVID E. CHINNERY DEVELOPMENT CORP., *Appellants in No. 75-2406*

APPEAL FROM THE DISTRICT COURT OF THE VIRGIN ISLANDS
DIVISION OF ST. CROIX

D. C. Civil Action No. 75-427

Argued April 29, 1976

Before VAN DUSEN, ADAMS and ROSENN, *Circuit Judges*

OPINION OF THE COURT

(Filed August 25, 1976)

ROSENN, *Circuit Judge*

This lawsuit has its origin in the behavior and power of nature, rather than in the conduct of the parties. A sudden rockslide occurred at Haypiece Hill on St. Thomas, Virgin Islands between midnight and 8:00 o'clock A.M. on

December 8, 1974. David E. Chinnery Development Corporation ("Chinnery") owned two buildings at the foot of Haypiece Hill which it leased to Videfreeze Corporation ("Videfreeze"), one for storage of frozen foods and the other for an office. The falling rocks penetrated the building used as a warehouse and buried large quantities of food. The office building, too, was severely damaged.

Prior to the rockslide, Fireman's Fund Insurance Company ("Fireman's Fund") had issued fire insurance policies to Videfreeze covering business interruption and loss to its merchandise and to Chinnery against fire and rental loss on its buildings. The four fire insurance policies contained an "Earthquake Insurance Assumption Endorsement," providing coverage for "direct loss by earthquake."

It is undisputed that both insureds sustained losses as a result of the rockslide. Videfreeze subsequently filed Proofs of Loss, and Chinnery submitted a cost estimate of repairs to its building, both companies attributing their losses directly to an earthquake which they claimed had caused the rockslide. Fireman's Fund denied that the slide was caused by an earthquake and took the position that the losses were therefore not covered by the fire insurance policies. After more than a year had passed in which the claims remained in dispute, Fireman's Fund, as plaintiff, instituted this declaratory judgment action against the insureds under 1A V.I.C. 1261 (1967)[1] in the District Court of the Virgin Islands.[2]

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[1] Section 1261 provides in pertinent part:

> Courts of record within their respective jurisdictions shall have power to declare rights, status, and other legal relations whether or not further relief is or could be claimed. No action or proceeding shall be open to objecton on the ground that a declaratory judgment or decree is prayed for.

[2] Jurisdiction of the district court is conferred by 48 U.S.C. § 1612 (1970).

Fireman's Fund sought a determination of "the respective rights and liabilities of the Plaintiff and Defendants as a result of the rock slide of December 8, 1974." In response, the defendants asserted several counterclaims in which they alleged that their losses were caused by the earthquake and hence covered by the insurance contracts. They sought a total of at least $761,093.25 in compensatory damages plus interest and reasonable attorneys' fees. Videfreeze further claimed punitive damages of $500,000 for Fireman's Fund's failure timely to pay the claims.

All parties stipulated that the trial would be bifurcated, the "issue of insurance coverage being first decided." The first phase of the trial resulted in the jury's finding, by answer to an interrogatory, that the defendants had sustained "a direct loss by earthquake." Thereafter, the district court granted Fireman's Fund's motion for judgment notwithstanding the verdict.

I. Factual Background

As a preliminary to our analysis of the entry of judgment notwithstanding the verdict, a brief outline of the evidence is essential. The district court opinion contains a more detailed rendition of the facts. *See Fireman's Fund Insurance Co.* v. *Videfreeze Corp.*, 68 F.R.D. 484 (D.V.I. 1975).

Haypiece Hill consists of volcanic rock which occurs primarily in series of long columns pointed downward. The rock was quarried for many years, and the explosives used in the quarrying operations produced fractures in addition to those which occur naturally in the rock. Water flows through the cracks, and has for hundreds of years, weathering it and forming a light-colored sediment.

An extraordinary amount of rain fell in St. Thomas during October and November, 1974, totalling thirty-two

inches. In the opinion of the insurance company's experts, the excessive water which penetrated the rock dislodged the side of the cliff. The insureds, however, adduced evidence that less than an inch of rain fell between November 28 and December 8, the date of the alleged earthquake.

The theory of the insureds was that a small earthquake had triggered the slide. They produced four witnesses who testified that they had felt a tremor, and three of the four were able to place its occurrence at about 1:00 a.m. on the morning of December 8. Although it is undisputed that no earthquake was recorded on the nearest seismograph at Cayey, Puerto Rico, an earthquake of magnitude 2 to 2.5 on the Richter scale, occurring in St. Thomas, would probably escape detection in Cayey.

The insurance company's experts testified that an earthquake small enough to be unrecorded at Cayey was too small to bring down the cliff at Haypiece Hill. They based their conclusion, in part, on the descriptive ratings of the Mercalli scale. That scale, which measures intensity, is an attempt to systematize and quantify observable effects of earthquakes of different intensities. On the Mercalli scale, landslides are first mentioned at intensity VII.

A very rough correlation can be made between magnitude 2 to 2.5 on the Richter scale and intensity II on the Mercalli scale. An earthquake of intensity II in St. Thomas, therefore, might not be recorded in Cayey, but one of intensity VII would undoubtedly be detected. Although earth masses are generally not dislodged until intensity VII is reached, one of the insureds' witnesses testified that this observation pertains to stable or semistable masses, not highly unstable ones.

The testimony of the insureds' experts was that water saturation did not bring down the rocks on Haypiece Hill.

A seismologist testified that the weakening of the cliff by quarrying and water absorption rendered it highly susceptible to toppling by a small tremor. He therefore opined that an earthquake which was undetectable at Cayey had nonetheless triggered the rockslide.

The jury returned a verdict in favor of the insureds on the sole issue of insurance coverage. The judge, "firmly convinced that a grave error has been made and a serious injustice will result", entered judgment in favor of the insurance company notwithstanding the verdict. 68 F.R.D. at 494. He also conditionally granted plaintiff's alternative motion for a new trial. Defendants appealed both actions by the trial judge. The plaintiff, Fireman's Fund, cross-appealed the district judge's decision to place the burden of proof on it and challenged the jury's instructions to that effect. We reverse the judgment notwithstanding the verdict and affirm the district court's order granting a new trial but for reasons other than those stated by it.

II. Burden of Proof

The starting point of our analysis must be an inquiry into the often elusive issue as to which party in a declaratory judgment bears the burden of proof. The judge, for policy reasons, decided to place the burden on the insurance company to prove that something other than an earthquake caused the insureds' loss. Although the question is close, we are convinced that the facts and pleadings of this particular case demand that the insureds shoulder the burden of proof of coverage.

Although Fireman's Fund sued under the federal Declaratory Judgments Act, 28 U.S.C. § 2201 (1970), as well as under its Virgin Islands counterpart, we note that there is some debate whether the federal statute applies

in the District Court of the Virgin Islands.[2A] In any event, Virgin Islands law would govern the position of the burden of proof as that issue is substantive, not procedural. *Palmer* v. *Homan,* 318 U.S. 109, 117 (1943); *Liberty Mutual Insurance Co.* v. *Sweeney,* 216 F.2d 209, 211 (3d Cir. 1954). The rule of the forum, here the Virgin Islands, would govern even if the federal statute were applicable.

1 V.I.C. § 4 (1967) provides:

> The rules of the common law, as expressed in the restatements of the law approved by the American Law Institute, and to the extent not so expressed, as generally understood and applied in the United States, shall be the rules of decision in the courts of the Virgin Islands in cases to which they apply, in the absence of local laws to the contrary.

We are unable to discover any cases brought under the Virgin Islands Declaratory Judgments Act in which the position of the burden of proof is discussed. Thus, we will be guided by our distillation of the general law on this issue.

The groundbreaking case is *Traveler's Insurance Company* v. *Greenough,* 190 A.129 (N.H. 1937), which was decided under New Hampshire's own declaratory judgment statute. There the New Hampshire Supreme Court refused to displace the burden of proof of coverage from its normal location on the insured, despite the reversed

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[2A] Fed. R. Civ. P. 57, with its reference to 28 U.S.C. § 2201, applies to the District Court of the Virgin Islands under 48 U.S.C. § 1615. However, section 2201 by terms is applicable in "any court of the United States," which is defined in 28 U.S.C. § 451 in such a way as not necessarily to include the District Court of the Virgin Islands. *See* Government of Virgin Islands v. Gereau, 502 F.2d 914, 931 (3d Cir. 1974), *cert. denied,* 420 U.S. 909 (1975); United States v. Lewis, 456 F.2d 404, 408 (3d Cir. 1972); Ottley v. DeJongh, 149 F.Supp. 75 (D.V.I. 1957).

positions of the parties in the action. The court emphasized that the hallmark of the question of the burden of proof is flexibility and quoted from IX Wigmore on Evidence § 2486 to the effect that any rules governing the burden of proof rest "for their ultimate basis upon broad reasons of experience and fairness."

Declaratory judgment actions arising after *Greenough* have, in the main, been characterized by such flexibility. "[T]he question depends often on the condition of the pleadings and the character of the issues when the question arises." E. Borchard, Declaratory Judgments 404-405 (2d ed. 1941). The leading case which expounded these guiding principles is *Reliance Life Insurance Company* v. *Burgess,* 112 F.2d 234 (8th Cir.), *cert. denied,* 311 U.S. 699 (1940).

In *Burgess,* the insurance company was made to bear the burden of proof but not merely because it happened to be the plaintiff in the declaratory judgment action. Rather, the court considered that the company disputed coverage by asserting an affirmative defense of exclusion and that the insured neither asked for affirmative relief nor put forth a cause of action. In that posture, the insurer properly was required to prove that the loss was due to an excluded cause.

The many cases which have looked to *Burgess* have been influenced by a number of factors in their examination of the posture of the pleadings and the formulation of the issues. Among them are: (1) whether the plaintiff objected to assuming the burden of proof; (2) which party asserted the affirmative of the issue; (3) which party would lose in the absence of any evidence on the issue; (4) what sort of relief is sought. *See* Annot., 23 ALR 2d 1243 (1952).

Courts understandably balk at imposing the burden of proof on unsuspecting defendants after the plaintiff in a declaratory judgment action has voluntarily assumed the

burden of proof and has given no prior notice of its claim that the defendant should bear the burden. *Liberty Mutual Insurance Company* v. *Sweeney,* 216 F.2d 209, 211 (3d Cir. 1954).[3] In the instant case, Fireman's Fund has adamantly maintained that the defendants should bear the burden of proof, as evidenced by its proposed pre-trial order. Hence, this action cannot be controlled by those cases in which an effective waiver of the burden of proof issue has been found.

Furthermore, the issue of coverage is put forth affirmatively by the insureds in their counterclaims. When the parties' positions are not reversed, the insured is typically charged with proving his loss was covered under the insurance contract. 21 Appleman, Insurance § 12093 at 10. "That the loss was caused within the [insurer's] promise is of the essence of the [insured's] case." 3A Corbin on Contracts § 751 at 476 (1964).

The insureds cite us to cases from the area of personal disability insurance to bolster their contention that the insurance company should bear the burden of proof. That line of cases frequently assigns the burden to the insurer, on the ground that it is asserting the affirmative of the issue that the insured is capable of working or engaging in business and is no longer entitled to disability payments. *See, e.g., New York Life* v. *Stoner, supra,* 109 F.2d at 876. Thus, these cases support our conclusion that the party with the affirmative of an issue may justly be required to bear the burden of proving it.

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[3] *See also* Pacific Portland Cement Company v. Food Machinery & Chemical Corporation, 178 F.2d 541 (9th Cir. 1949); Bauer v. Clark, 161 F.2d 397, 401 (7th Cir. 1947), *cert. denied,* 332 U.S. 839 (1947); New York Life Insurance Company v. Stoner, 109 F.2d 874, 876 (8th Cir .1940), *rev'd on other grounds,* 311 U.S. 464 (1940). Hartford Accident Indemnity Co. v. Lougee, 196 A.2d 67 (N.H. 1938).

An additional consideration to which many courts advert in declaratory judgment proceedings is which party stands to lose in default of evidence. *Royal Indemnity Co.* v. *Wingate,* 353 F. Supp. 1002, 1004 (D. Md.), *aff'd* 487 F.2d 1398 (4th Cir. 1972); *Preferred Accident Insurance Co.* v. *Grasso,* 186 F.2d 987, 991 (2d Cir. 1951); *Philip A. Hunt Co.* v. *Mallinckrodt Chemical Works,* 72 F. Supp. 865, 873 (E.D.N.Y. 1947), *aff'd* 177 F.2d 583 (2d Cir. 1949); 20 Appleman, Insurance § 11376 at 198 (1963). An analysis of the foregoing cases reveals that this approach actually depends upon which party asserts the affirmative of the issues. In the instant case, the insureds, although nominally the defendants, were affirmatively asserting coverage under the policies and risked an adverse judgment on their counterclaims for damages if they adduced no evidence of coverage.

When, as here, the insurance company seeks only a declaration of non-liability and the insured asserts coverage under the policies with the company and a counterclaim for money damages, the insured is in reality seeking recovery under the policy and the insurer is denying the liability. Even though the insurer has initiated this declaratory judgment action and is titularly the plaintiff, we adhere to the fundamental rule that the risk of nonpersuasion "rests upon the party who, as determined by the pleadings, asserts the affirmative of an issue and it remains there until the termination of the action." *Reliance Life Insurance Co.* v. *Burgess, supra,* 112 F.2d at 238.

We thus place the burden of proof, or the risk of nonpersuasion, where it would ordinarily rest under the Anglo-American system of jurisprudence—on the insureds.[4] The burden of proof which usually accompanies

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[4] Moore is often cited as authority for placing the burden of proof on the insurer as plaintiff in a declaratory judgment action, at least as to the prima facie elements of its claim. 6A Moore's

the affirmative of the issue of coverage should not be shifted merely due to the form of the action. As Judge Clark stated in *Grasso, supra,* "[i]t would seem rather anomalous that so important a matter [as the burden of proof] should depend on the chance of who first sues and the outstanding authority in the field [Professor Borchard] argues against such a result." 186 F.2d at 991. *See also Stop & Shop, Inc.* v. *Ganem,* 200 N.E. 2d 248, 252 (Mass. 1964). We therefore hold that it was error to have imposed the burden of proof in this case on the insurer.

III. Judgment Notwithstanding the Verdict

The district court entered judgment in favor of Fireman's Fund on whom it had placed the burden of proving that the losses were not covered by the insurance policy. Either directing a verdict or entering a judgment notwithstanding the verdict [5] for the party having the burden of proof is rare, reserved for extreme circumstances. *Wilson* v. *United States,* 530 F.2d 772, 777 (8th Cir. 1976); *Service Auto Supply Co. of P. R.* v. *Harte & Co.,* 533 F.2d 23, 24-25 (1st Cir. 1976); *Polhemus* v. *Water Island,* 252 F.2d 924, 928 (3d Cir. 1958).

Federal Practice ¶ 57.31[2] at 57-268 (1975). However, his comment disapproving the *Greenough* case for placing the burden of proof on the insured must be read carefully. He states that the result is "unwise in its own context", that is, that of an insurer seeking to avoid defense of a suit arising out of an automobile accident. In such a case, the insurance company "seeks an advanced determination of its liabilities, and the injured third party is forced to litigate the coverage issue before it has established its claim against the insured." Clearly, we are here faced with an entirely different situation in which the equities dictate a different result—there are no injured third parties, there is no litigation awaiting the outcome of this case, and since the issue of coverage has already been joined between the insureds and the insurer by the filing of proofs of loss by the insureds, there is no unfair prematurity.

[5] The standards governing both are identical. Neville Chemical Co. v. Union Carbide Corp., 422 F.2d 1205 (3d Cir. 1970).

The standards to be applied vary according to whether the movant has the burden of proof.

> [T]hough a motion for directed verdict in favor of the proponent of an issue is cast in the same form as when made by the defending party, it requires the judge to test the body of evidence not for its insufficiency to support a finding, but rather for its overwhelming effect. He must be able to say not only that there is sufficient evidence to support the finding, even though other evidence could support as well a contrary finding, but additionally that there is insufficient evidence for permitting any different finding.

Mihalchak v. *American Dredging Co.,* 266 F.2d 875, 877 (3d Cir.), *cert. denied,* 361 U.S. 901 (1959). *Arkwright Mutual Ins. Co.* v. *Phila. Electric Co.,* 427 F.2d 1273, 1275 (3d Cir. 1970). *See also Gatenby* v. *Altoona Aviation Corp.,* 407 F.2d 443, 445 (3d Cir. 1968); IX Wigmore on Evidence § 2495 at 306 (3d ed. 1940).

Other courts are agreed that the proponent who moves for a directed verdict or a judgment notwithstanding the verdict must meet a strict test. The United States Court of Appeals for the Tenth Circuit has permitted the grant of a motion for a directed verdict "only if the overwhelming preponderant proof is so in favor of the movant as to permit no other rational conclusion." *Wells* v. *Connecticut General Life Insurance Co.,* 469 F.2d 1231, 1234 (10th Cir. 1973). The movant who has the burden of proof must have established his case "by testimony that the jury is not at liberty to disbelieve" according to a recent decision from the First Circuit. *Service Auto Supply Co. of P.R.* v. *Harte & Co., supra,* 533 F.2d at 25. It is not sufficient that the facts be undisputed; there must also be no sufficient ground for inconsistent inferences to be drawn therefrom. *Arkwright Mutual Insurance Co.* v. *Philadelphia Electric Co., supra,* 427 F.2d at 1275; *Jopek*

v. *N. Y. Cent. R.R. Co.*, 363 F.2d 778, 783 (3d Cir. 1965); 5A Moore's Federal Procedure ¶ 60.02[1] at 2319 (1975).

The trial judge in the instant case, rather than looking to the standards governing the entry of a judgment notwithstanding the verdict in favor of the proponent, consulted *Denneny* v. *Siegal*, 407 F.2d 433 (3d Cir. 1969), in which the movant did not bear the burden of proof. Following the rule of law he derived from *Denneny*, the judge considered only the sufficiency of the evidence of the insureds and found it lacking.

He formulated and applied the test that "[t]here must be sufficient facts for the jury to say reasonably that the preponderance favors liability." Memorandum opinion at 13. By his own placement of the burden of proof on the insurance company, however, the judge was obliged to evaluate its evidence and to deny it a judgment notwithstanding the verdict unless the evidence of non-liability was compelling. If we accept the judge's decision as to which party had the burden of proof, we must conclude that he erred in his choice of standards for examining the record upon the proponent's motion for a judgment notwithstanding the verdict.

The error which marred the judge's evaluation of the state of the evidence may not be reversible error after all if the insureds properly should have borne the burden of proof on the issue of coverage. The test chosen by the district judge is applicable to motions for judgment notwithstanding the verdict by parties whose proponents bear the burden of proof. As we have previously indicated, we are persuaded that indeed Videfreeze and Chinnery, the insureds, should have been charged with the burden of proving coverage of their losses under the insurance policies. Thus, the judge's decision to evaluate their evidence for sufficiency to support the verdict, upon a motion by the insurance company, would be correct.

Hourston v. *Harvlan, Inc.*, 457 F.2d 1105, 1108 (3d Cir. 1972); *Denneny* v. *Siegal, supra*, 407 F.2d at 439.

The trial judge, in his review of the evidence, and this Court, in its own appellate review, must expose the evidence to the strongest light favorable to the party against whom the motion is made and give him the advantage of every fair and reasonable inference. *Continental Ore Co.* v. *Union Carbide and Carbon Corp.*, 370 U.S. 690, 696 (1962); *Dovberg* v. *Dow Chemical Co.*, 353 F.2d 963, 968 (3rd Cir. 1965), *cert. denied*, 384 U.S. 907 (1966). At least two factors are outside the perimeters of either court's review—the credibility of the evidence and the weight of it. *Brady* v. *Southern R. Co.*, 320 U.S. 476, 479-80 (1943); *Wylie* v. *Ford Motor Co.*, 502 F.2d 1292, 1294 (10th Cir. 1974); *Burchill* v. *Kearney-National*, 468 F.2d 384 (3d Cir. 1972).

Moreover, conflicting evidence which could reasonably lead to inconsistent conclusions will not justify a judgment notwithstanding the verdict or a directed verdict. *Giangerelli* v. *Gregory*, No. 76-1006, opinion at 8 (3d Cir. June, 1976); 5A Moore's Federal Practice ¶ 50.07 at 2356 (1975). It is the function of the trier of fact alone, the jury in this instance, to evaluate contradictory evidence and to draw inferences therefrom. *Continental Ore Co., supra*, 370 U.S. at 700-701.

The trial judge in the instant case invaded forbidden territory from time to time in his review of the evidence, although he articulated an understanding of the constraints on his review. In the first place, he apparently discounted the testimony of three of defendants' four lay witnesses, noting that one was "thoroughly discredited" and that the other two, husband and wife, were related to a shareholder of Chinnery and had business connections with Videfreeze. We must look behind his disavowal of any intention to "pass on the credibility of the witnesses"

because we are convinced that he did just that, albeit unintentionally.

Further, the judge attempted to determine the preponderance of the evidence. Apparently, he thought that the verdict should not be allowed to stand unless he could conclude that the jury could "say reasonably that the preponderance favors liability." Memorandum opinion at 13. His appraisal of the evidence was in terms of "tipping the scales" (at 16). We have said that a trial judge, when deciding on a motion for a directed verdict or for judgment notwithstanding the verdict, should not determine whether the evidence "preponderates" but must confine himself to ascertaining whether the party against whom the motion is made adduced sufficient evidence to create a jury issue. *Hourston* v. *Harvlan, Inc., supra. See also Wylie* v. *Ford Motor Co., supra,* 502 F.2d at 1294.

Finally, our own reading of the record in this case convinces us that there was sufficient evidence adduced to make a judgment notwithstanding the verdict improper. In the words of *Denneny* v. *Siegel,* 407 F.2d 433, 439 (3d Cir. 1969), we cannot say (as a matter of law) that the record is deficient of that "minimum quantum of evidence from which a jury might reasonably afford relief" to the insureds.

The absence of any record on the nearest seismometer at Cayey, Puerto Rico, of an earthquake at St. Thomas is not necessarily conclusive that none occurred. Although an earthquake of intensity III and above on the Mercalli Intensity scale in St. Thomas would have been detected, a quake of 2 or 2.5 on the Richter scale for measuring earthquake magnitude, or approximately intensity II on the Mercalli scale, could occur in St. Thomas and escape detection in Cayey. Thus, the trial judge, albeit reluctantly, concluded "it is conceivable that a jury could properly find from the testimony of the defendants' four lay witnesses adequate proof of the existence of an earthquake of some size." Memorandum opinion at 15.

In order to recover, however, the insureds were further obliged to establish the earthquake as the probable cause of the rock slide. The judge, appropriately stating that he drew all inferences in favor of the insureds, nonetheless decided that "to say that the earthquake was the cause of the losses suffered by the defendants, one must resort to the purest speculation, conjecture and surmise." Memorandum opinion at 15. We disagree.

To be sure, the Mercalli scale, which describes the perceived effects of earthquakes of varying intensity, first mentions land slides at intensity VII whereas an undetectable quake on St. Thomas would necessarily be below intensity III. The uncontroverted testimony of defendants' expert seismologist, Dr. Murphy, however, was that the Mercalli description referred to reasonably stable or semistable earth masses, not to highly unstable ones as the evidence showed Haypiece Hill to be. Thus, the Mercalli scale intensity measurements are not conclusive of the ability of smaller earthquakes to dislodge unstable rock already weakened by years of quarrying.

Defendants' expert witnesses focused on the particulars of the slide at Haypiece Hill. Mr. Villa, a civil engineer with long experience in the Virgin Islands, opined that water saturation did not cause the rock slide. According to his testimony, the amount of rain which fell prior to the slide would have dislodged, at most, "two or three truckloads of rock." The sort of massive slide which occurred, in his opinion, could not reasonably be attributed to excessive rainfall. Furthermore, he testified that he had observed Haypiece Hill both before and after the December 8th slide and at no time had he found evidence of rain seepage down through the rock face of the cliff.

Dr. Murphy then gave his expert opinion that the sort of weakening of the cliff averred to by plaintiff's experts rendered it highly susceptible to toppling by a small

tremor. He testified that although rain was a material factor, it was his opinion that an earthquake of about intensity II in St. Thomas caused the December 8th rockslide that damaged defendants' property. In response to plaintiff's attorney's assertion that he was dealing only in "possibilities," Dr. Murphy demurred and said his scenario was a "probability."

Much has been made of Dr. Murphy's answer to the further question:

> Q. [W]hat would you call a probability, 1 in a thousand or 1 in 10,000?
>
> • • •
>
> A. I would probably say 1 in a thousand or so.

The judge construed that interchange as a suggestion by Dr. Murphy "that the reasonable probability of the rockslide being caused by an earthquake was 1000 to 1" and concluded that the defendants' own expert had damaged their cause.

We believe this is an unfair reading of Dr. Murphy's testimony, particularly being mindful of the admonition to make every reasonable inference in favor of the defendants. We construe the remarks as an abstract, generalized discussion of what distinguishes a "probability" from a "possibility." Dr. Murphy was merely stating his view in light of the limited alternatives offered that, when the chances of an event's occurring are 1 in a thousand rather than 1 in 10,000 it is proper to term that event a "probability" rather than a "possibility." At no time was he asked what the odds were as regards this particular event. For all the cross-examination indicates, Dr. Murphy might well have considered the probability that an earthquake caused the rockslide just short of a certainty.

Thus, we hold that the testimony of defendants' experts provided evidence beyond a "mere scintilla"[6] and created a jury question as to the cause of the rockslide and hence of defendants' losses. Although the district judge could properly take into account uncontradicted evidence tending to undermine the defendants' prima facie case,[7] he erred in accepting the opinion of Fireman's Fund's experts over the contrary opinion of defendants' experts as to the cause of the rockslide. A proper adherence to the standards governing the entry of a judgment notwithstanding the verdict would mandate viewing defendants' evidence as reasonably supporting the inference that a small, unrecorded, and ordinarily harmless earthquake caused an unusually weakened cliff to slide.

Moreover, much of the uncontradicted evidence of the insurance company tended to establish the proposition that the hill was weakened by water saturation caused by the extraordinary rains and by prior quarrying activities and that the strata sloped in such a manner as to facilitate rockslides. This evidence cuts both ways as it allows both the inference that water saturation caused the slide and the inference that, although an unrecorded quake would ordinarily be insufficient to set off a slide, the cliff was so prone to slide that even a small tremor could trigger it.

IV. New Trial

The district court, in granting the motion for judgment notwithstanding the verdict, conditionally granted Fire-

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[6] A "mere scintilla" of evidence, in federal courts, is not enough to warrant submitting a case to a jury. *E.g.*, Bertot v. School Dist. No. 1, 522 F.2d 1171, 1175 (10th Cir. 1975); Zarzaur v. United States, 493 F.2d 447, 452 (5th Cir. 1974); Hohmann v. Packard Instrument Co., 471 F.2d 815, 819 (7th Cir. 1973); Denneny v. Siegel, 407 F.2d 433, 440 (3d Cir. 1969).

[7] 5A Moore's Federal Practice ¶ 50.02[1] at 2329 n. 27 (1975).

man's Fund's alternative motion for a new trial pursuant to Fed. R. Civ. P. 50(c).[8] The ground on which the grant of a new trial rested was "the verdict which the jury returned is contrary to the clear weight of the evidence." Memorandum opinion at 18. We do not find it necessary to weigh the evidence; a new trial is required because the district court erred in assigning, and instructing the jury on, the burden of proof.

V. Disqualification of Expert Witnesses

As there will be a new trial, we must address the defendants' objection to the disqualification of two of their proposed expert witnesses.

Defendants concede that the standard of review on this question is abuse of discretion. *Vlases* v. *Montgomery Ward & Co.*, 377 F.2d 846, 852-53 (3d Cir. 1967); *Roberts* v. *United States*, 316 F.2d 489, 493 (3d Cir. 1963). Our careful review of the record pertaining to the defendants' attempt to qualify their two witnesses as experts reveals that the trial judge acted well within the bounds of his sound discretion.

The first witness who sought to be qualified possesses a bachelor of arts degree in geology and is a licensed engineer in the Virgin Islands. He has had extensive experience with earth moving. While the judge was quite willing to allow him to testify on subjects such as rock formation or slippage, he ruled that the witness "has no qualification to voice any opinion as to an earthquake or as to whether the earthquake caused it or didn't cause it." As

[8] Fed. R. Civ. P. 50(c) provides in pertinent part:

> (1) If the motion for judgment notwithstanding the verdict, * * * is granted, the court shall also rule on the motion for a new trial, if any, by determining whether it should be granted if the judgment is thereafter vacated or reversed, and shall specify the grounds for granting or denying the motion for the new trial.

the witness had admitted that he had no training in seismology, we perceive no error in holding him unqualified to give an expert opinion on whether the rockslide was or was not caused by an earthquake.

Defendanst' second witness is licensed as an engineer and architect in the Virgin Islands but holds no degree. He testified that he did not consider himself to be a geologist. His experience with rockslides is limited to excavation procedures. The judge ruled that this witness was not an expert on earthquakes. Again, we are persuaded that this ruling was within the bounds of trial court discretion.

VI. Conclusion

To summarize, the judgment notwithstanding the verdict entered in favor of Fireman's Fund will be reversed. The order granting plaintiff's motion for a new trial will be affirmed and the case will be remanded for that purpose. In the new trial, the burden of proof of coverage under the insurance policies will be placed on the defendant insureds. Costs taxed against Fireman's Fund Insurance Company, the appellee and cross-appellant.

To THE CLERK:

Please file the foregoing opinion.

Circuit Judge

(Caption Omitted in Printing)

Present: VAN DUSEN, ADAMS and ROSENN, *Circuit Judges.*

JUDGMENT

This cause came on to be heard on the record from the District Court of the Virgin Islands, Division of St. Croix, Christiansted Jurisdiction, and was argued by counsel.

On consideration whereof, it is now here ordered and adjudged by this Court that the judgment of the said District Court, entered on October 15, 1975, granting judgment, notwithstanding the verdict, in favor of plaintiff be, and the same is hereby reversed; and it is further ordered that the order of said District Court granting plaintiff's motion for a new trial, entered October 15, 1975, be, and the same is hereby affirmed and the cause is remanded for that purpose, in accordance with the opinion of this Court. Costs taxed against Fireman's Fund Insurance Company, the appellee and cross-appellant.

ATTEST:

/s/ THOMAS F. QUINN
Thomas F. Quinn
Clerk

August 25, 1976

[C] Order of the United States Court of Appeals for the Third Circuit, Dated and Entered September 29, 1976, Denying Petition for Rehearing and Petition for Rehearing En Banc

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

(Caption Omitted in Printing)

SUR PETITION FOR REHEARING

Present: SEITZ, *Chief Judge,* VAN DUSEN, ALDISERT, ADAMS, GIBBONS, ROSENN, HUNTER, WEIS, and GARTH, *Circuit Judges*

The petition for rehearing filed by

Fireman's Fund Insurance Co., Appellant in No. 75-2405,

in the above entitled case having been submitted to the judges who participated in the decision of this court and to all the other available circuit judges of the circuit in regular active service, and no judge who concurred in the decision having asked for rehearing, and a majority of the circuit judges of the circuit in regular active service not having voted for rehearing by the court in banc, the petition for rehearing is denied.

By the Court,

/s/ MAX ROSENN
Max Rosenn
Judge

Dated: September 29, 1976

[D] Table I

PLAINTIFF'S EXHIBITS

Exhibit No.	Description	Admitted, Refused, or Withdrawn
P-1—P-9	Rainfall and weather data—Virgin Islands 1940—March 1975	Withdrawn (summarized and included in P-31)
P-10	Seismogram—Cayey, Puerto Rico, April 14-15, 1968	Admitted
P-11	Seismogram—Cayey, Puerto Rico, December 7-8, 1974	Admitted
P-12	Data Search of Earth Quake Data File, 1940-1974	Admitted
P-13A, 13B, 13C, 13D, 13E, 13F	Six Photographs of Rockslide taken on December 8-9, 1974	Admitted
P-14	Insurance Policy Number F-602-05-01 issued Videfreeze Corp. (Copy attached to complaint as Exhibit A)	Admitted
P-15	Insurance Policy Number F-602-05-48 issued to Videfreeze Corp. (Copy attached to complaint as Exhibit B)	Admitted
P-16	Insurance Policy Number F-602-08-09 issued to Chinnery Development Corp. (Copy attached to complaint as Exhibit E)	Admitted

Exhibit No.	Description	Admitted, Refused, or Withdrawn
P-17	Insurance Policy Number F-602-08-17 issued to Chinnery Development Corp. (Copy attached to complaint as Exhibit F)	Admitted
P-18	Lease of Rock Quarry site at foot of Haypiece Hill, Submarine Base Area, from Virgin Island Port Authority to Chinnery Development Corp., dated January 1, 1971	Withdrawn
P-19	Sublease from Chinnery Dev. Corp. to Videfreeze Corp. of warehouse to be built on Rock Quarry site at foot of Haypiece Hill, Submarine Base Area, dated May 10, 1973	Withdrawn
P-20	Schulterbrandt's letter to Virgin Island Government dated October 30, 1974	Admitted
P-21	Copies of 19 pages of the *Daily News,* Charlotte Amalie, U.S. Virgin Islands, November 11-18, 1974 containing articles about excessive rainfall	Withdrawn
P-22	West Indies Insurance Agency's Notice of Loss Record dated November 13, 1974, pertaining to Chinnery Development Corporation's report of rockslide occurring on November 12, 1974 and damage to building by falling objects	Withdrawn

Exhibit No.	Description	Admitted, Refused, or Withdrawn
P-23A, 23B, and 23C	Three 8×10 photographs of rockslide occurring on November 12, 1974	Admitted
P-24	West Indies Insurance Agency's Notice of Loss Record dated December 9, 1974 pertaining to Videfreeze Corporation's report of December 8, 1974 rockslide due to "unknown cause"	Refused
P-25A, 25B, 25C, 25D, 25E, 25F, 25G, 25H, 25I, 25J	Ten photographs of rockslide site and damage to buildings taken on February 29, 1975	Admitted
P-26	Chinnery Development Corporation's letter of December 9, 1975 to the Virgin Island Government	Refused
P-27	Chinnery Development Corporation's letter of December 9, 1975 to Ronald Gross, West Indies Insurance Agency	Refused
P-28	Letter dated December 11, 1974 from attorney for Chinnery Development Corporation to the Attorney General of the Virgin Islands regarding December 8, 1974 rockslide and alleged negligence of the Virgin Island Government in not taking steps to prevent rockslide	Refused

Exhibit No.	Description	Admitted, Refused, or Withdrawn
P-29A and P-29B	Weather observations at airport St. Thomas, for December 11-12, 1974, National Weather Service NOAA, U.S. Department of Commerce	Withdrawn
P-30A and P-30B	Weather Observations at airport, St. Thomas, March 2-3, 1975, National Weather Service, NOAA, U.S. Department of Commerce	Withdrawn
P-31	Graph of Annual Rainfall, St. Thomas, Virgin Islands, 1940-1974—U.S. Government records	Admitted
P-32	Graph of Annual Rainfall, St. Thomas, Virgin Island, 1972-1074, Nathaniel Wells records	Admitted
P-34	Monthly Listing of Earthquakes, National Earthquake Information Service, NOAA, U.S. Department of Commerce, Boulder, Colorado	Admitted
P-35	Earthquake History of the United States, Environmental Data Service, NOAA, U.S. Department of Commerce, 1970, pages 127-131, pertaining to earthquakes in the Puerto Rico and Virgin Island region	Admitted

Exhibit No.	Description	Admitted, Refused, or Withdrawn
P-36	*Elementary Seismology,* Charles F. Richter, published by W. H. Freeman and Company, San Francisco, 1958	Withdrawn
P-37	Modified Mercalli Intensity Scale and discussion thereof at pages 136-138 of *Elementary Seismology,* Charles F. Richter, 1958	Admitted
P-38	Daily and Cumulative Rainfall Records of St. Thomas, 1958-1975, compiled by Nathaniel O. Wells	Admitted
P-39	Composite photograph of Rockslide site	Admitted
P-40	Composite photograph of Rockslide site	Admitted
P-41	Rock from Rockslide site identified by Nathaniel O. Wells	Admitted
P-42	Rock from Rockslide site identified by Nathaniel O. Wells	Admitted
P-43	Copy of Cayey Log identified by Moises Vazques	Admitted
P-44	Cayey and Puerto Rico Region List of Earthquakes from 1777 to 1995	Admitted
P-45A, 45B, 45C	Rock from Rockslide site identified by Dr. T. W. Donnelly	Admitted
P-46	Dike rock from Haypiece Hill	Admitted
P-47	Signed Statement of Frank Packard	Admitted

[E] Table II

DEFENDANTS' EXHIBITS

Exhibit No.	Description	Admitted, Refused, or Withdrawn
D-A	Copy of sample earthquake questionnaire contained in *Richter, Elementary Seismology*	Admitted
D-B	Photograph of rockslide	Admitted
D-C	Photograph of rockslide	Admitted
D-D	Photograph of Building	Admitted
D-E	Photograph of back of building	Admitted
D-F	Photograph of back of building	Admitted
D-G	Photographs of rocks and building	Admitted
D-H	Map from book by Dr. T. W. Donnelly about geology of St. Thomas and St. John	Admitted

[F] Table III

THE MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITIES
1956 Version

I. Not felt. Marginal and long-period effects of large earthquakes.

II. Felt by persons at rest, on upper floors, or favorably placed.

III. Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.

IV. Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV wooden walls and frame creak.

V. Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.

VI. Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle).

VII. Difficult to stand. Noticed by drivers of motorcars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and

architectural ornaments). Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.

VIII. Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.

IX. General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks on ground. In alluviated areas sand and mud ejected, earthquake fountains, sand craters.

X. Most masonry and frame structures destroyed with the foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand mud shifted horizontally on beaches and flat land. Rails bent slightly.

XI. Rails bent greatly. Underground pipelines completely out of service.

XII. Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

The above Modified Mercalli Scale, 1956 Version, appears in *Elementary Seismology,* C. G. Richter, W. H. Freeman and Company, San Francisco, 1958. This table and a discussion of the Mercalli Scale appears at pages 136 through 138 of Richter's *Elementary Seismology,* admitted into evidence in this case as Exhibit P-37. In the footnote at the bottom of page 137, Dr. Richter in rewriting the scale took full responsibility for this version which conforms closely to the original intention.

[G] Table IV

Relationship Between Richter Magnitude Scale and Modified Mercalli Scale

Magnitude	Maximum intensity	Radius (Km)
2	I-II	0
3	III	15
4	V	80
5	VI-VII	150
6	VII-VIII	220
7	IX-X	400
8	XI	600

The above table is found in *Richater, Elementary Seismology,* at page 353; for other tables showing the same relationship, see *Bulletin of the Seismological Society of America,* volume 55, page 522, 1965; and *Am. Jur. Proof of Facts,* Volume 1, pages 159-160.